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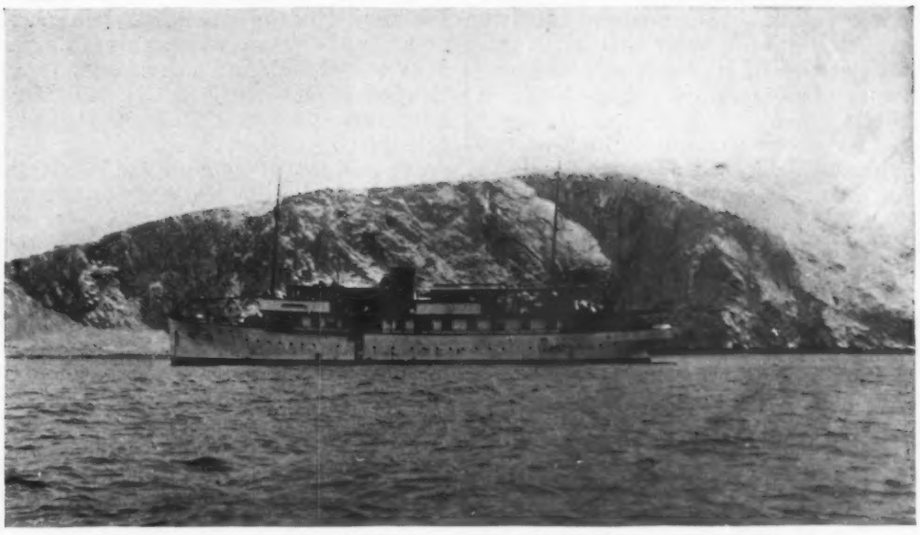


"Samona II," a 148-foot Diesel cruiser, anchored off the guano cliffs of Chincha Island on her way north along the coast of Chile

North in the Humbolt

From Patagonia to Panama Along the West Coast of South America

By JOHN VANDERVEER DEUEL

N THE open sea off Cape Occasion,* huge combers roll in endless monotony and guarantee a "bumpy" passage to any boat that ventures far from the sheltering inland passages. We turned about and followed Barbara Channel back to the Straits of Magellan. Tempestuous weather and heavy seas are experienced off Cape Pillar, the western entrance to the Straits of Magellan, and the entrance into the Pacific is often very difficult even for full powered vessels. The depth off Cape Pillar shoals up to seventeen fathoms; with heavy wind it is a seething "hell-hole" and there is a short, rough sea even in fine weather.

On February tenth the *Samona* stuck her nose out of Tuesday Bay into Sea Reach and met the tempestuous blue mountains of the broad Pacific. Let me say, too, that vessels proceeding westward should not pass Tuesday Bay without certainty of clearing the Strait before dark, as it is the last safe port and lies only thirteen miles from Cape Pillar. Rain, sleet and snow settled down so thick that we had to run a circle for three hours, and then we decided to strike back into Smythe Channel and follow its connecting and intricate waterways, difficult to navigate but sheltered, and enter the Pacific through Trinidad Channel, 160 miles north of Cape Pillar.

Smythe Channel runs for 78 miles in a northerly direction and connects with Canal Sarmiento through Collingwood Strait and Victory Pass. Every one of these Patagonian channels presents a difficult problem in navigation; the buoys are small and not always easily seen, and cannot be depended upon even when visibility does reveal their position. There has never been a complete survey of the channels between Magellan Strait and the Gulfo de Penas on the north; all headland bearings are not accurate. Rare breaks of fine weather did occur at intervals — it was midsummer — and during these infrequent periods glorious scenery was revealed. Evergreens and Antarctic beeches are practically the only trees, and when the islands are more than mere abrupt cliffs of grey rock the trees grow thick from the water's edge to a line several hundred feet above. But for the most part the weather is extremely bad; rain, snow, sleet and wind are almost perpetual. The wind comes from the north most of the time and in the extremely con-

**After a long series of wanderings in search of specimens for American museums which had taken the yacht "Samona II" along the shores of Central America, to the South Seas, up the Amazon and down the east coast of South America to Rio de Janeiro, her crew decided to make the passage back to California by rounding South America. The story of the passage through the Straits of Magellan was told in the issue of* YACHTING *for December, 1932. The article which appears here deals with the "Samona's" northward voyage along the coast of South America, from Cape Pillar, at the western extremity of the Straits of Magellan, to Panama.*

"Samona II" is a steel cruiser of 148 feet, and is powered with two 600 horse Winton-Diesels. She was in the service of the W. J. Hole Expedition, and was designed by L. E. Geary, of Los Angeles. [ED.]

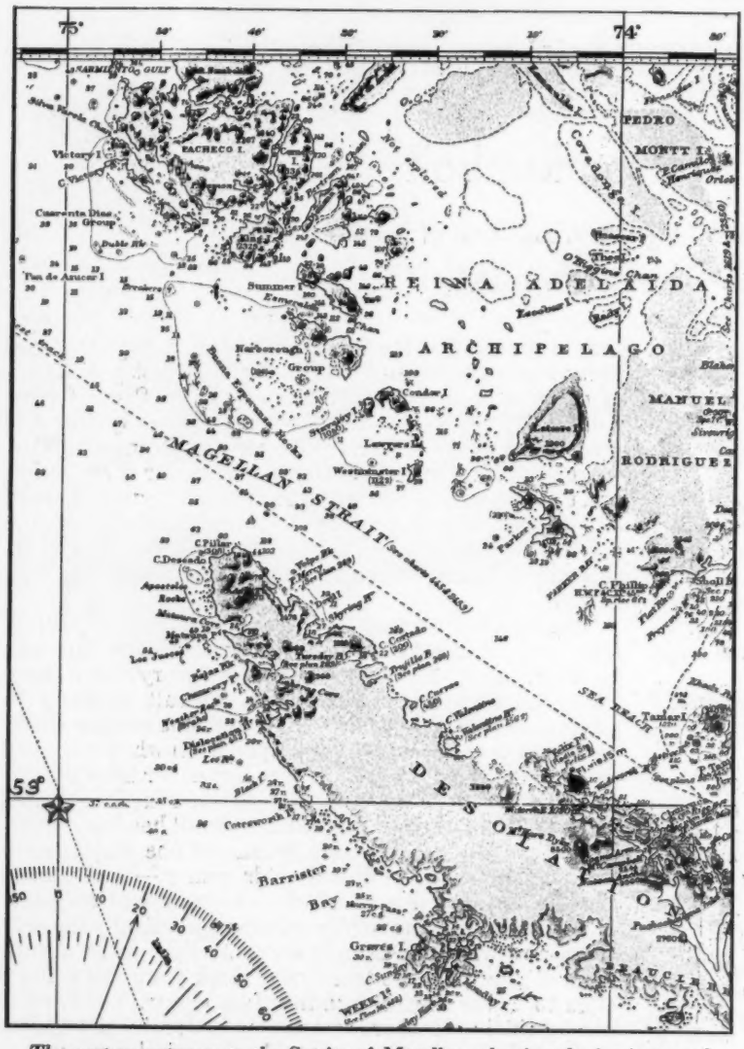
tracted passages, such as Guia and English Narrows, it screams with great fury as it rushes through the confined spaces of these great chasms. Here and there are pieces of decaying wreckage — stern reminders of the innumerable tragedies of this grim and silent land.

The only food supply that can be depended upon is mussels, which are abundant and exceedingly good. However, we did procure a few berries from which we made some very indifferent pies. These were hard to get, however; the thick tangles of undergrowth and the abundance of soft spongy moss, into which one sinks to one's "plimsol" mark, make pedestrian traffic almost impossible. Now and then we caught a glimpse of a crude Indian (Alacalufes) raft crossing the channels, a fire burning in the center on a pile of gravel, and perhaps thirty almost naked savages squatting with their posterior regions almost in the icy waters that washed their craft. Such is life in this land of constant vigilance and rigor.

Twisting through Collingwood Strait, which brought us into Canal Sarmiento, we had 70 miles of fairly good running except for a little kelp now and then, until we came to Guia Narrows, or, to be proper, "Angostura de Nuestra Senora de Guia," so called after Sarmiento's vessel. Here, for six miles, the width is only three to twelve cables, but fortunately the shores are steep-to on either side. Everywhere the snow-capped peaks present a configuration of incessant winter. Issuing from the majestic chasm which is Guia, we passed close to Guard Island because the stream sets strongly toward Porpoise Point, and entered Canal Inocentes. For eighteen miles the passage is through an unexplored region surrounded by precipitous headlands and deep inlets. At Isla Inocentes the channel of the same name terminates and Canal Concepcion begins by separating the Islas Madre de Dios from the mainland, and terminates in Brassey Pass, where Trinidad and Wide Channels join, a distance of about 29 miles. Brassey Pass is about latitude fifty degrees south.

We had hoped to enter the Pacific through Trinidad Channel, but, while the weather is generally more moderate here than off Cape Pillar, we encountered worse weather than farther south. The depth here also shoals up to seventeen fathoms. Great pyramidal masses of rock rise in rugged solidity on every hand.

Again we took to the shelter of inland channels and entered Canal Ancho (Wide Channel) at the northeast extreme of Islas Madre de Dios, where the latter forms a junction with Concepcion and Trinidad Channels. In places this channel is anything but that which its name implies, and we encountered one large piece of glacial drift ice near the entrance to Icy Reach on the east of Saumarez Island which divides Wide Channel. We went into reverse, and finding that it would be difficult to get around the ice, we took to Chasm and Escape Reaches on the west of Saumarez. Here we had a trifle more than a half cable width channel, but the water was clear and very deep. For 30 miles we continued on Wide Channel, through Indian Reach, and English Narrows. The latter is about 500 feet wide in places, and the tidal stream is about five knots. From the north entrance to English Narrows we had our last 75 miles of inland running on Messier Channel, which has its outlet at Tarn Bay into the Golfo de Penas. The mountains are more savage and lofty, the scenery more majestic, but the channel is quite clear of obstructions save for Cotopaxi Rock.



The western entrance to the Straits of Magellan, showing the intricate and dangerous channels which can be negotiated only with extreme caution

At last *Samona* emerged into Golfo de Penas, driving into heavy seas and a strong indraft. The long vigil was over. Day after day and week after week we had read charts to which were appended notes warning that these waters, these islands, these headlands were all very imperfectly known. Caution and more caution — but to let one warning go unheeded means disaster in these waters, and disaster invariably means tragedy. We passed Cabo Tres Montes and kept well out to sea to miss Cape Raper, twelve and a half miles to the northwest. At last the gloomy shores of a labyrinth of inhospitable islands were behind us — a place of savage majesty and fierce gales, of deep, grey chasms of abysmal and brooding silence wherein lurks the ghost of the Ancient Mariner.

A dozen giant albatross rode the howling gales or swooped low into the huge rollers as we rode north on the Humbolt Current. Heavy seas and even a snow storm followed us to within 36 hours of Valparaiso — the Antarctic gales seemed furious that *Samona* had made her escape.

The grim and desolate coast of Patagonia

Just another dead shark

Rugged and wild, inhospitable for the mariner, is the shoreline of Chile that stretches for 2300 miles along the Pacific — a mere shoe string averaging from 85 to 200 miles in width along the great western slope of the Andes. Devoid of natural harbors, and with practically no shelter to offer the seaman, the coast is a series of abrupt cliffs — a land of extremes.

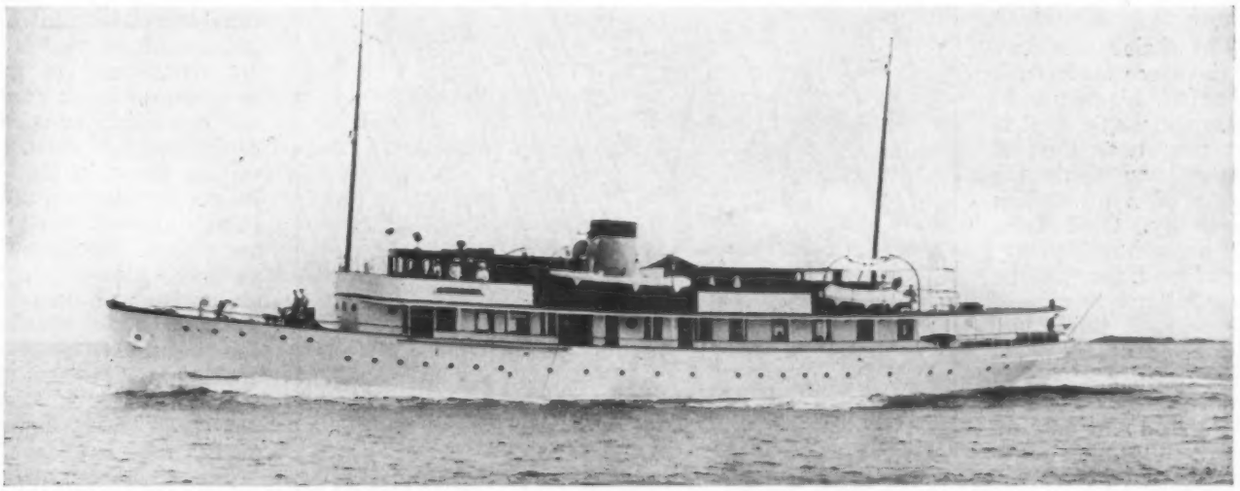
It was rather singular that at the same hour and on the same day that *Samona* arrived from the Antarctic, the *Savarona* arrived in Valpo from the north. The harbor here is artificial, and as in every other South American port, there is a heavy fine for slight infractions of the maritime regulations — it is well to consult the "good book." Here you must not anchor, nor pick up a buoy, but cruise slowly around in circles and blow for the authorities. Eventually, the latter will come out and take a line for you and make it fast to one of the big can buoys. The harbor is deep, but has a strong surge. The Chilean Navy occupies the best berths, which are along the breakwater.

From Valpo we journeyed inland by motor car to the Capitol, Santiago, far up on the Andean slopes — yes, very far. We had an American motor, but, unfortunately, a Chilean pilot who knew only two speeds — full ahead, and full astern. On the steep mountain curves he attempted only to get the front wheels around — providence and those of us who clung desperately to the madly swaying quarter deck were expected to keep the "poop deck" from sliding over the cliffs. Santiago is a beautiful city of Chilean customs and traditions — a bit of classical culture from the early days of chivalry. Far back in the mountains we traveled to sleepy, romantic Los Andes. Kilometers without end flowed beneath our charging demon until we again reached Valpo.

We made our clearance and on a glorious summer morning in February, sailed again "north on the Humbolt." The panorama that unrolled to the northward was one of rugged shores and barren mountain slopes where grows not a single sprig of grass — an endless monotony of brown earth as far as the eye can reach. Rain seldom falls on these barren shores of Northern Chile and the coastal regions of Peru.

Antofagasta, Arica, Mollendo, Ancon, and then Chincha, "the bed-bug islands." You don't have to be a navigator to find these — just use your sense of smell; the odor is far reaching. We came here to procure a few specimens, but a yachtsman really wouldn't want to spend much time at Chincha. In a blow the islands afford protection, but the odor is terrific. The waters for many miles out to sea are dark brown and covered with a peculiar pink scum in many places. We anchored

(Continued on page 76)



"Samona II," designed by L. E. Geary, and built on the West Coast by the Craig Shipbuilding Co., circumnavigated South America under the W. J. Hole Expedition. She is powered with two Winton-Diesels

"Pinta" Ships a Jonah

By

COULTON WAUGH

IT WAS not that forebodings of misfortune were lacking on *Pinta's* voyage north from the West Indies this spring, but that a literal-minded crew failed to attach sufficient importance to the warning omens. There was the matter of Percy, for instance. Percy, obviously, was too gorgeous a bird to be lucky — but I anticipate.

Lank Ford and I joined the ship at Nassau. Lank was an old *Pinta* man, having been with her in the Transatlantic Race of 1928. Aboard we found John Green, captain and photographer; Emil Okstoft, the merry Danish Hercules who served us as hand extraordinary; and two sunburned young Englishmen, Dennis Puleston and Geoffrey Owen.

These English lads knew their stuff. They had sailed from England in September, 1931, in the *Uldra*, a little yawl only thirty feet overall, and had made their landfall at Antigua on November 19th, twenty-eight days out from the Canary Islands. They had then knocked about in the West Indies, adding experience to experience. In charge of a plantation at Tortola, they raised coconuts. Tired of this, they had hauled out their vessel and joined Green for a little side trip to the States, via the less frequented islands of the West Indian group.

At Nassau hospitality was lavished on us. We were known as "the Boys on the *Pinta*," one to six. The genial Fred Armbrister turned a whole house next his photographic studio over to us. It was a delightful arrangement. When the vocal chords would collapse from too many Casey Joneses and Frankie and Johnnies, the arms sag limply over the accordion, and the whole frame wilt away, a man simply headed for the ship or the studio, whichever was convenient.

The whole atmosphere of the place is rich and colorful. Nassau still holds the magic spell of treasure; over the old pirate town floats the aroma of a mysterious possibility. Gold bars, you know, have actually been found. Legend, the superstitious stories of the negroes, the actual existence of treasure undoubtedly close at hand, gorgeous color, fleets of local sailing craft — all combine into a romantic pattern.

There seemed plenty of action afoot. We lived in a whirl of treasure hunting, diving and photography. But, at length, our shore leave came to a close. There came a day when we did not swim in turquoise seas or lie on pink beaches under coconut palms. With an expanding sense of gratitude for the hospitality of the good people of Nassau we hove up the hook and pointed *Pinta* north through the emerald waves.

To my mind, ocean cruising is great stuff. You sail over a lot of water and through a lot more; some of it inevitably finds its way to the back of the human neck and thence down, as through a system of locks, into the human bilges, where it sloshes around and makes not for comfort. You take wind and water as you find them — as they come uncooked out of the can — the grunt or curse being your major comeback.

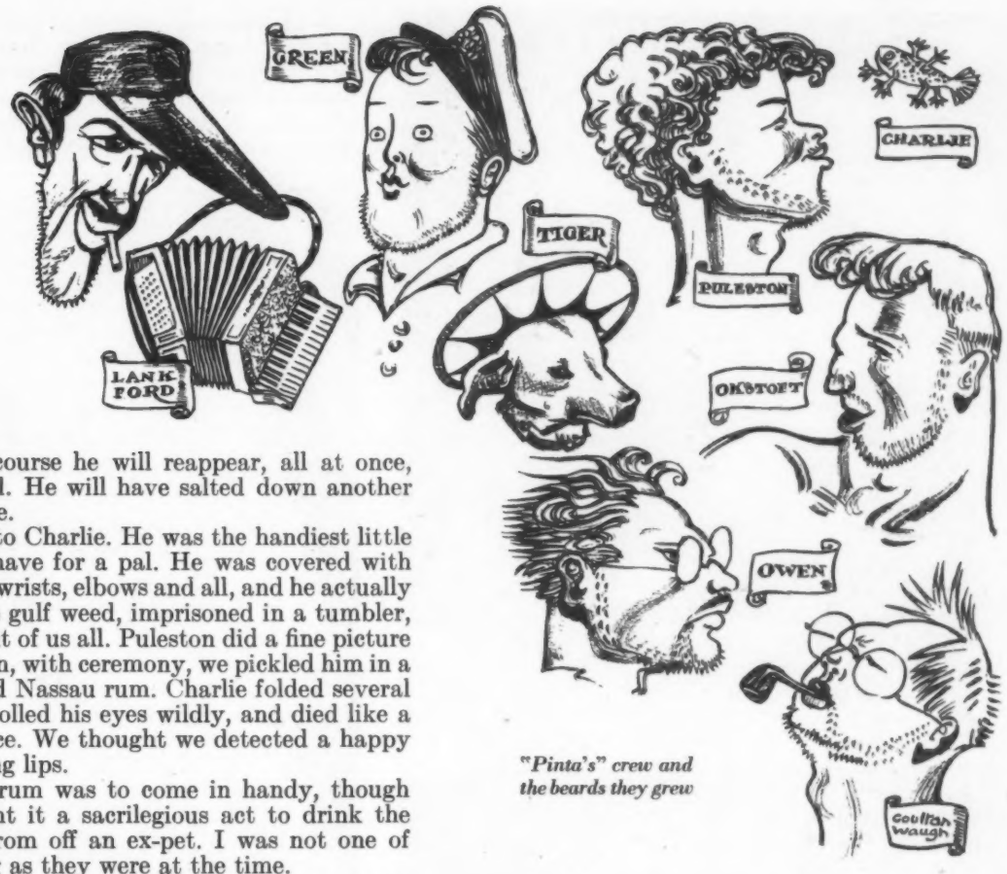
These things only serve to exaggerate the deep simple comforts that are lost sight of in our lives ashore. How many landlubbers ever realize that they have on dry clothes? There must be millions who live and die without once giving the matter a thought. Yet is there anything more deeply satisfying than the feel of a warm, dry woolen shirt after sloshing around drenched to the bilges? The answer is "no!" And coffee; and tobacco — especially tobacco! To know the weed intimately, work first.

We thumped along, wet enough to know we were at sea, warm enough to feel we were still south. We slipped easily into that sea routine which becomes a rhythmical pleasure — the joys of sleep, long night watches on deck, watches spent without need of speech, balancing the swing of the Pole star on the starboard spreader. And we burned up film!

Rolling home to Rye

Somewhere about the third or fourth day began the Saga of the Pets on the *Pinta*.

Charlie came aboard on a gorgeous Gulf Stream morning when the ship had been turned inside out for a good drying. He came via the long arm of Lank Ford, who scooped him up with a patch of gulf weed. It was on this trip that I learned the secret of Lank's universal fund of knowledge. He investigates — everything, everywhere, all hours of the day and night. It's this that makes him disappear. You'll be talking to him perhaps; turn your head and he'll suddenly vanish in the most mysterious fashion. Then try not to find him, friend; bide your



"Pinta's" crew and the beards they grew

time and in due course he will reappear, all at once, when most needed. He will have salted down another lump of knowledge.

But to go back to Charlie. He was the handiest little fish a man could have for a pal. He was covered with little mits, fingers, wrists, elbows and all, and he actually walked around the gulf weed, imprisoned in a tumbler, to the astonishment of us all. Puleston did a fine picture of Charlie, and then, with ceremony, we pickled him in a little jar of rare old Nassau rum. Charlie folded several pairs of his mits, rolled his eyes wildly, and died like a good fish for science. We thought we detected a happy smile on his curving lips.

Later Charlie's rum was to come in handy, though some of us thought it a sacrilegious act to drink the embalming fluid from off an ex-pet. I was not one of those, things being as they were at the time.

And then, of course, there was Tiger. Tiger belongs to our English shipmates. She is a gentle and confiding little bitch with an original habit of sitting on her fanny with her hind legs stuck up in the air. She is an amazing sea dog with an apple-cheeked bow, well rounded sheer, and considerable tumble home. This makes her fine in a seaway.

We now come to Percy, and with Percy the first sinister note creeps into the story. He should have warned us. His colors were too lurid; they had the sharp brightness of a dangerous sunset. Percy was a large and helpless Purple Gallinule who came flopping aboard crying out that he needed rest and sleep. He had big clumsy feet fitted for wading in fresh water and we softened towards him and provided shelter in the shape of a wicker basket. Here Percy slept the clock around while we poor sailors went skipping on the deck.

We made a landfall on Diamond Shoals Lightvessel, reported, bade farewell to the delicious warmth of the Stream, picked up the spike of Hatteras, and coasted the shore for some time. That night I was below, salting down some sleep against the demands of the graveyard watch, when I heard the hail, "All hands on deck to 'bout ship!" My feet were on the floor when she struck.

There are probably few sounds that give the soul more of a sudden wrench at its moorings than the hard, violent jarring sound of the keel of a sailing ship bringing up suddenly, without warning, on its natural enemy, the earth. It is a sound utterly alien to the comfortable squelchings and bur[illegible]ings of the ship's progress through the water, and strikes as from another universe with the crack of Gabriel's trumpet.

And things — unforeseen things — began to happen.

I jumped for my glasses with the automatic reaction of every near-sighted man on waking. My glasses had gone. I tried to find them; they had flown off somewhere to leeward. Every few seconds we struck. Voices hailed from the deck. A flood of confidence returned to me with the thought, "My spare glasses — in the drawer under my bunk!"

The drawer, of course, was jammed. This jamming, we found, adds great complexity to the problems of shipwreck, troublesome enough in their own way. It was some time before I wrenched open that drawer. But what mere wood could stand in the way of a man looking for his glasses in a shipwreck?

I jumped on deck and was instantly drenched to the skin in the waves which made a breach over her as she lay hard over on the starboard tack. Down to leeward the two Englishmen were coolly casting off the lashings of the dinghy. Emil had started the engine and Green, who was at the wheel, was trying to get her about.

It was black as a grave. The roar of surf was in our ears, an undercurrent to the heavy slatting of the sails, which, having been eased, beat a resounding tattoo in the hard breeze.

Sometimes, in the midst of a tense moment, one becomes suddenly aware of a sense of strange detachment; one sees oneself as if on a stage a long distance away and examines the layout with a quiet interest.

I think this sense must have possessed us all. I know that we all realized that we could do nothing to get *Pinta* about, that the dinghy was of small value in the surf, and that our best bet was the Coast Guard.

The Very pistol was, of course, in a drawer that had jammed. But an axe helped it out and Lank, in his most offhand and effective manner, soon had the rockets sizzling through the night. I remember noting, again with that curious detachment, the startling pictorial

Under Gulf Stream clouds

Right. Fine weather for foul duds

effect of those rockets; they added the final and authentic note, with the sudden lurid light thrown on thrashing canvas and boiling surf.

At the second rocket someone shouted that we were hard up on the beach.

Wimble Shoal Light had been identified by the watch, to leeward, some time before. The wind had piped up very hard and headed us. And there is, as the stranding proved, a very tricky onshore set to the current just north of Wimble Shoal. It is not noted in the Coast Pilot. Captain Midgette, of the Coast Guard, told us it was running about four knots at the time. We had nosed in over the outer bar and *Pinta* had picked the prettiest little spot for a vacation ashore that could well be imagined.

Our first thought was for Tiger. As I have said, Tiger was an excellent bad weather dog, but the stranding had unnerved her for once. She was found in the utmost recesses of the stateroom and secured by Emil. Emil was Tiger's man. One look from those liquid eyes and the man's giant form would begin to go to pieces. The rest of us were Tiger's men also.

So Tiger was saved early in the proceedings and passed over to her master, Puleston, who headed through the surf with Tiger backing water as hard as she could. But the gallant Puleston was knocked head over heels by a wandering billow, and Tiger, freed, struck back for home and *Pinta*. Poor Puleston had to do his stuff all over again, and Tiger, finally on the beach, scuttled away into the night.

We began to salvage gear. One by one, we jumped overboard and headed for shore with our burdens held high in the air. It is curiously hard at such times to determine what things are to be considered of value. A dry shirt certainly does not rank a chronometer; on the other hand, it is of more value than a volume of Shakespeare's sonnets. It was black as a church and the water was cold. Things passed through the surf in a procession — Lank's precious accordion, chronometers, sextants.

A Coast Guardsman found us, gave the alarm, and turned to and helped with a will.

I remember going up the beach with a load of cameras. It was absolutely deserted and appeared on that dark night to be a barren waste of sand, without houses, without life or movement. I was cold. I set down the cameras and I remember thinking how like a castaway I must have looked, streaming with water and with one sock gone. To warm up I took a run down the beach. Finding nothing, I headed back for the *Pinta*. Her canvas had ripped up and was slatting heavily with a thundering sound as she lay over on her side with her jib trailing in the surf. She looked enormous, looming faintly out of the darkness.

I went back aboard. Inside the cabin the lamp was still flickering, and all hands, braced at odd angles, were busy drinking the last of an emergency ration of rum. I never expect liquor to taste as well again. We worked on with a will. A little later, Charlie, the handy fish, stood by with his embalming fluid.

Soon the Coast Guard arrived in force and after getting out most of our gear we went back to the station in the truck, to the relief of warm clothes and beds.

We had driven in a little north of the Coast Guard station of Rodanthe, North Carolina. I should have imagined Rodanthe, by its name, to have been a delicious

little Southern town, buried in quaint something or other, and brooding over its romantic past. On the contrary, it turned out to be a grim hamlet on a wild, remote and treacherous coast. On one side stretches the even flat surface of Pamlico Sound; on the other is the glittering sea, and the endless roar of surf. Between, a narrow spit of grey sand, a few grey buildings huddled together under a grey sky. That's all.

Yet the place had a strange fascination. The inhabitants are simple, curious as children, unsmiling, archaic. Their speech retains certain old English words. The old women wear frilled sunbonnets and witchcraft vanished not so very long ago. A curious feature of the place is the presence of herds of wild horses. Everybody has a horse; apparently, the horseless one has only to go out and snare himself a steed to rectify his condition. People drive around in little, home-made wooden chariots, for no other word will describe these vehicles. Two of the local belles put on a very fine Ben Hur act for us, racing the champion team against the Coast Guard truck. The belles lost, but after a gallant battle. In the wild state, the horses get water by pawing holes in the sand and seem to thrive on the scanty pasture.

The place has also been the scene of many stirring deeds, attested by the grey bones of ships, spaced as if by design along the beach. Captain John Midgette has a little collection of relics that not a man on the *Pinta* but would have given his eye teeth for. He pulled them out one night and threw them on his bed for us to examine. We took them up one by one: the Congressional Medal of Honor; a little medal that only the select group who have already received the Congressional Medal may aspire to; several others. Then came a finely engraved cup in a magnificent case on which appeared the British Crown tooled in gold.

It was for the stirring rescue of the crew of the British tanker *Mirlo*, torpedoed during the Great War and ablaze four miles offshore. Only ten men were lost out of a crew of fifty-two. But the Captain had to work through a sea literally on fire. He had blankets with him and smothered the burning clothing of the men as he hauled them into the boat. He was a man, that fellow . . .

Next day the poor *Pinta* presented an odd and painful spectacle. She was covered so thickly with the local lads and lassies that her shapely form was scarcely visible. Giggling school girls sat in rows in her cabin. Others busied themselves tearing little squares off the jib for souvenirs, which the crew were soon requested to sign.

This matter of souvenirs brings up the subject of the *Pinta's* load of conch shells. The day before we left Nassau the country went off the gold standard. There seemed to be little real information about world affairs to be had in Nassau; we heard many rumors, some highly fantastic. All the banks in the world were closed, someone said, but we were too busy to pay much attention. But because of all these uncertainties, money was very hard to get that last day and the problem of gifts became acute until an itinerant conch dealer hove alongside and we drove a bargain for a lot load. These conchs were very fine, the real Nassau product, and we felt that our gift problems were solved.

After the stranding we were observed salvaging these conchs and it is not too much to say that the entire town of Rodanthe immediately became conch-conscious. Of this we were glad, as we owed much to these good

(*Continued on page 90*)

Rigging and clouds

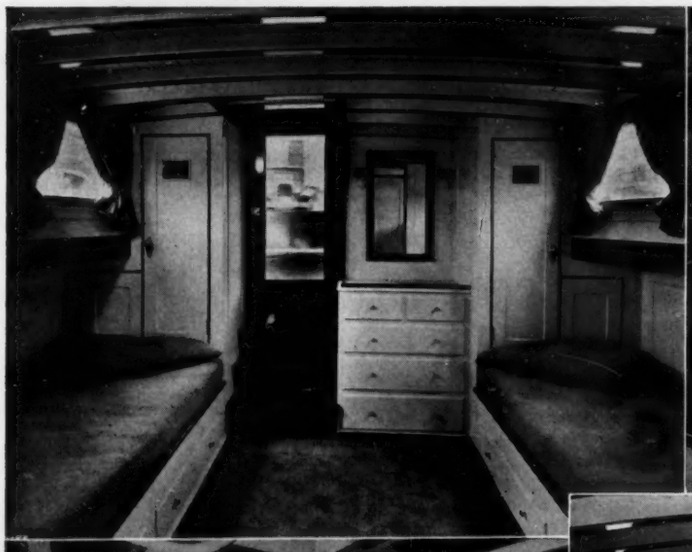
Below. "Pinta" hit the beach near Cape Hatteras, but was towed off by the Coast Guard without serious damage

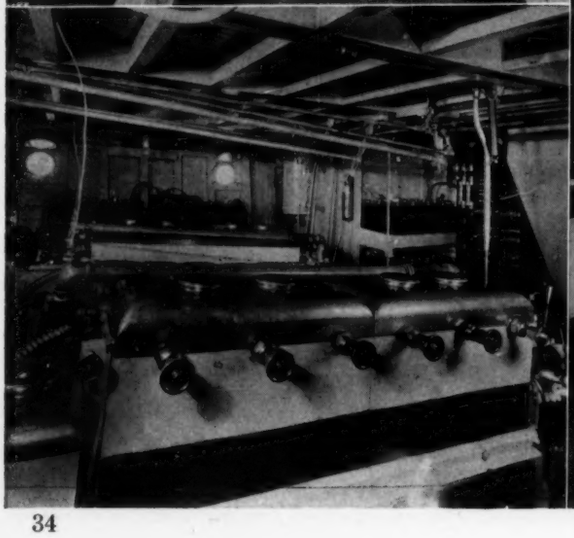
"Clumber"

Another New Diesel Cruiser

"Clumber," a 70-footer designed by Tams, Inc., for Oliver Gould Jennings, of Fairfield, Conn., was launched this spring from the yard of Julius Peterson on the Hudson River. She was designed for comfort and seaworthiness and the accompanying reproductions show spacious interior accommodations in a powerful and able hull which, in form, resembles that of a submarine chaser

Built for reliable service, "Clumber's" exterior and interior are suggestive of simplicity and ruggedness. The engine room is well laid out with all machinery and controls easily accessible. She is powered with two 100 h.p. Winton-Diesels which drive her better than 11 knots





M. Rosenfeld

From the club verandah one gets a view through the palms of Pearl Harbor of the anchored fleet and the club pier in the foreground

Yachting in Hawaii

By HERBERT L. STONE

MOST yachtsmen think of the sport of yachting, and particularly that of yacht racing, under the conditions in which they customarily do their sailing. They get used to having their races run in a certain way, they become familiar with certain courses, the marks of which they round week after week, and get to know the classes of yachts they meet throughout the season. Thus, in a measure, they become somewhat provincial in their outlook on the sport and frequently fail to note what is going on in the localities where conditions are somewhat different. This accounts, perhaps, for their slowness in adopting new ideas or accepting innovations or theories tried out elsewhere and found good. It took a thorough trimming to convince our racing fraternity of the advantages of the overlapping, or Genoa jib, and of the value of the so-called parachute spinnaker, just to mention a couple of cases in point. This "backwardness" can be attributed chiefly to conservatism and to lack of interest in what yachtsmen in other parts of the world are doing. Hence this article on what Hawaii offers its yachtsmen, written after several very delightful weeks in what is aptly called "The Paradise of the Pacific."

Perhaps most American yachtsmen think of Honolulu, where much of the yachting activity of the Islands is concentrated, as being the finish of the biennial ocean race from California to Hawaii, the port where rest and relaxation are to be had after two to three weeks of hard driving over 2200 miles of long Pacific swells, set in motion by the steady, persistent northeast trades. And once Diamond Head is passed, and the sea-worn sailors are taken in hand by the yachtsmen of Honolulu, it is true that the days that follow are full of relaxation, even if the lavish hospitality of your hosts prevents too much rest. And as the days slip by and lengthen into weeks, the charm of the Islands and the encircling sea gets into the blood and makes the day of departure something to be postponed as long as possible. Certain it is that the glamor of these Pacific islands has as much to do with the popularity of this long ocean race as the contest itself.

Located in the trade wind belt, between latitudes 19 and 22 degrees north, conditions in the Hawaiian Islands make for ideal yachting. Here one can sail all the year round; but lest so much indulgence in one's favorite sport should pall, the yachtsmen wisely confine the active season to some seven months, from mid-March to the end of October. During this period weekly races are scheduled which keep the skippers and crews of the several classes fully occupied with the keenest kind of competition.

Pearl Harbor, where most of the yachting is done, is a large, landlocked bay, with an island in the center, and here the various courses are laid out, including some up to ten miles in length. With the steady trade wind sweeping down over the waving fields of cane, or drawing around Diamond Head and pulling down along the shore, ideal sailing conditions are found, either in the harbor or on the open sea outside, where a number of the special events are sailed. When the trades are blowing fresh one gets all the wind one wants — and then some. Indeed, one of the complaints of the Star Class sailors is that in the strong breezes in which the fleet of Honolulu usually sails it is hard to get a boat properly tuned, or give a skipper the training he needs for sailing in the light weather usually encountered in the Star Class international series held on the mainland, and particularly on Long Island Sound.

The clubhouse of the Pearl Harbor Yacht Club in its setting of tropical foliage, and (inset) the entrance gate

There is a good sized fleet of Stars at Honolulu, some 22 of them, sailed either on Pearl Harbor or on an outside course off Waikiki Beach, back of Diamond Head. And the racing is of the keenest, particularly in the elimination series to pick a representative of the Hawaiian fleet for the Internationals.

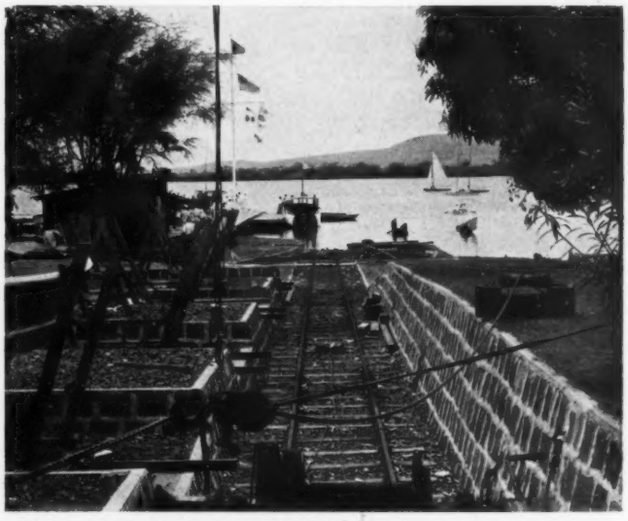
The classes sailed are for the most part those found on the mainland. In addition to the Stars the Herreshoff "S" Class of 21-foot waterline sloops is, perhaps, the most popular. There are some eight or nine of these boats, all well kept and raced throughout the season, and sailed by some of Honolulu's best skippers. The Pacific Coast One-Designs are also raced. Four of these little boats were bought from their West Coast owners a few years ago, when they were brought out on a naval vessel for a team race against the Pearl Harbor Yacht Club Class S boats. The Honolulu sailors won the match by a margin of only one point, and they liked the visiting boats so well that all four were purchased to form the nucleus of a class that has since proved popular. Still another good sized fleet is to be found in the 18-footers, sailed largely, though by no means entirely, by the juniors, which the members of the Pearl Harbor Club are sponsoring. These juniors, under the guidance of Vice Commodore Earl Thacker and others, are developing some excellent sailors.

The Pearl Harbor Yacht Club has one of the most attractive homes to be found anywhere in the United States. Situated on the shore of the harbor, and surrounded by palms and other tropical trees and shrubs, its broad, shaded verandahs afford a fine view of the club anchorage and the starting line. Back of the clubhouse proper is a fine new sail shed, for airing and drying sails. Due to the climate and the frequent rain squalls, all sails are taken off the spars when one is through sailing and hoisted up to the beams of the shed, where a circulation of air keeps them in good condition until the next sailing day. This is a scheme which many yacht clubs on our own Atlantic Coast might adopt with advantage.

Alongside the club dock are two marine railways, beautifully kept and surrounded by grass, where the boats can be hauled out, cleaned and polished whenever desired, and a complete shop for such repairs as may be necessary. With native or oriental "boys" always standing by to work on members' boats at so much per hour, the high cost of yachting is a thing unknown in Honolulu. Would that this were so here at home.

Due to the strong trade winds drawing down through the channel between Oahu, on which Honolulu is situated, and the island of Moloki, the sea outside of Pearl Harbor is frequently rough and lumpy, but this does not prevent the club from sailing a number of important events there.

The windward, or eastern shore of the island is also wind swept, and the surf breaks heavily on the outlying



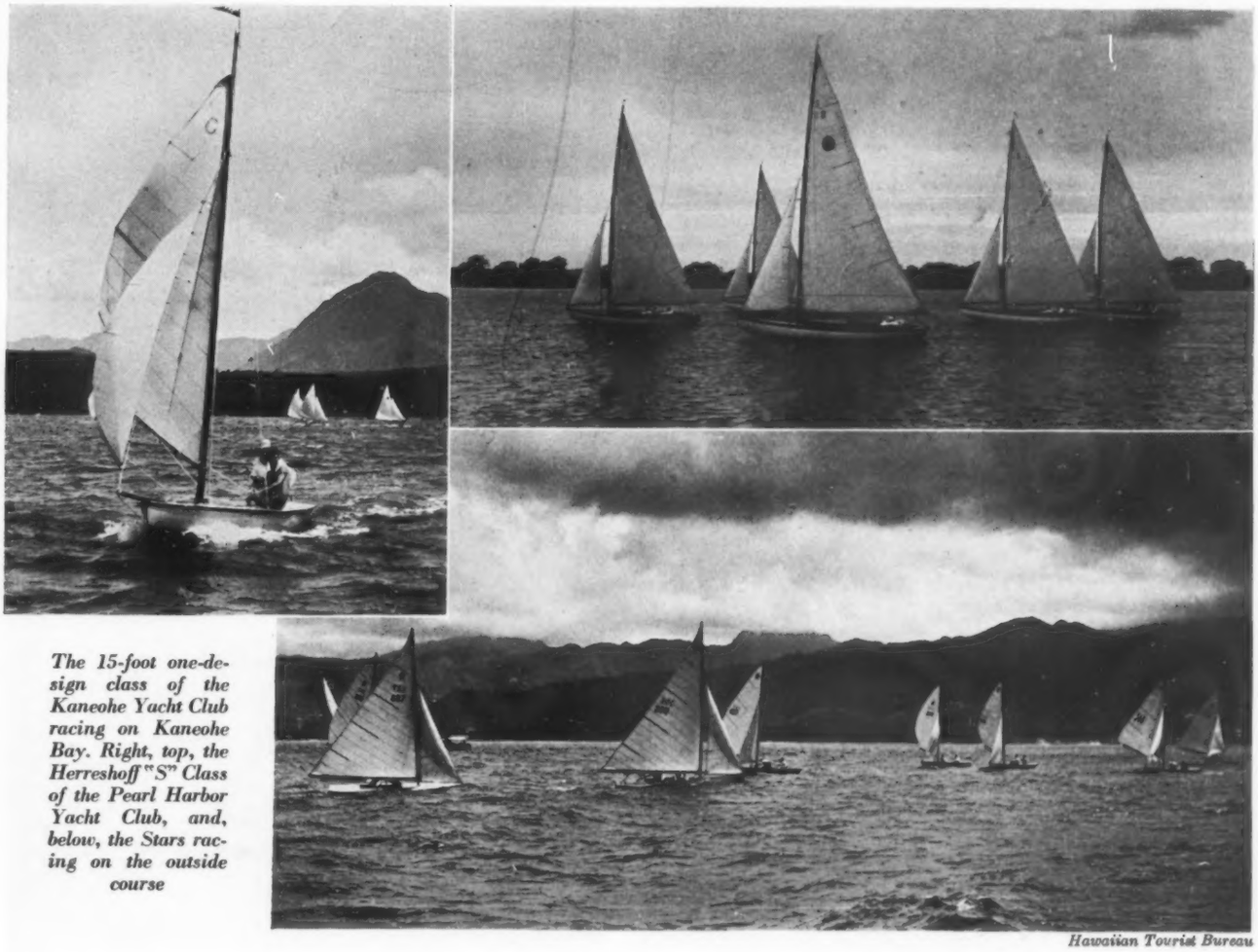
The marine railway of the Pearl Harbor Yacht Club is well kept and will take yachts up to fifty feet in length

coral reefs most of the time. There is, however, one large bay protected by the reefs and an encircling peninsula and backed by the jagged pinnacle peaks of Oahu, known as Kaneohe Bay. Here is located the Kaneohe Yacht Club, a younger organization than the Pearl Harbor Club, but composed of enthusiastic sailors. The club races a large fleet of 15-foot waterline sloops, designed by A. E. Doane, the plans of which appeared in YACHTING a few years ago.

Several different courses are laid out on the bay and when the trades are blowing fresh one has his hands full taking one of these little craft around the course and keeping her on her feet. Racing is keen, under excellent conditions, calms and light winds being rare. There is some interclub racing between the Kaneohe sailors and those from Pearl Harbor, and last year the former sailed a number of their little 15-footers along the coast and around Makapu Head, where it is invariably rough, to meet the Pearl Harbor boats in their home waters.

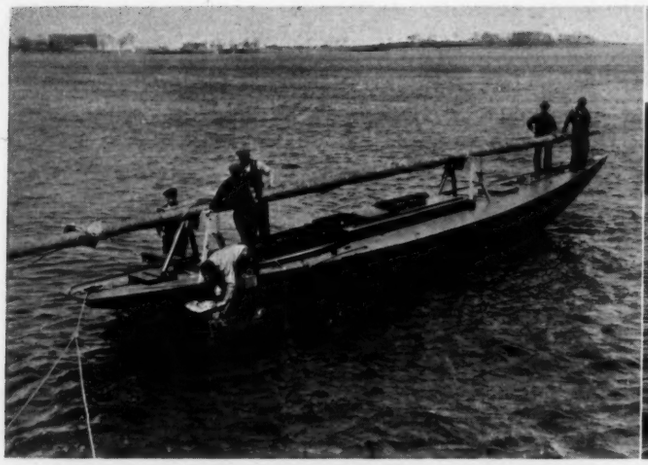
As to cruising, there is not as much done among the islands as one would expect. One reason for this is that good, landlocked harbors are scarce. On Oahu, the two harbors mentioned are the only ones to be found, except for Waialua Bay on the north end, exposed to northerly and westerly winds. Also, the shores of all the islands are bordered with coral reefs, and are somewhat inaccessible. The channels between the five large islands are from 15 to 25 miles wide, and the trades sweep through between the high volcanic mountains which rise steeply, making these channels very rough. However, once in the lee of the islands, the sea smooths out, and the leeward coast of Hawaii offers a number of bights or bays where one can anchor with fair protection. Good fishing is to be had here, but most of this is done from husky power cruisers, or auxiliaries, while the native fishermen use the Japanese sampan, a power boat of a most interesting and distinctive type. Still, there are a number of fine cruising yachts that make Honolulu their home port. Among these should be mentioned Commodore Bottomley's fine yawl *Dolphin*, and Harold G. Dillingham's Schock-designed schooner *Manuiwa*, formerly named the *Highlander*. In the latter yacht, her owner cruises not only among the Islands, but down to the Palmyra group, some 900 miles to the southward, while Tahiti, the Marquesas, and other of the South Sea Islands are not too difficult to reach in a cruise of only a few months.

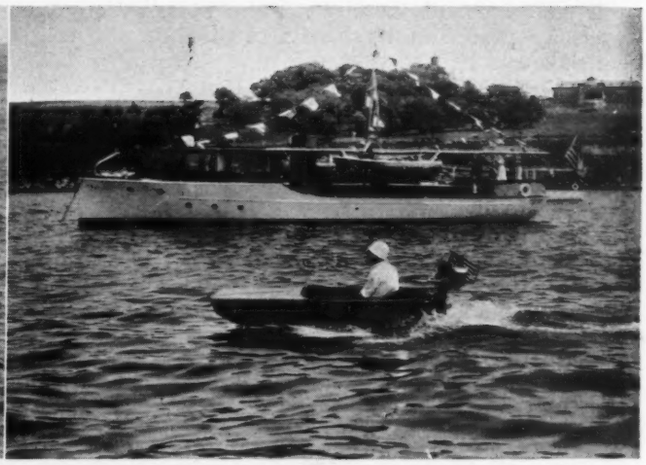
As a point of departure for a South Sea cruise Honolulu is ideal. In fact, one should not contemplate a cruise to the islands lying south of the line without figuring on a visit to Honolulu either going out or coming home. And if any yachtsmen from the mainland want to start their racing season early, a visit to Honolulu will be well repaid in every respect. If one takes his own yacht with him he will meet with a warm welcome and find good sport. If he goes without a yacht, he will find that the hospitality of the Hawaiian sailors will extend to the point of seeing that he gets a boat to sail and competition that will keep him well employed during such times as his hosts allow him from delightful entertainment ashore. What more can one ask?



The 15-foot one-design class of the Kaneohe Yacht Club racing on Kaneohe Bay. Right, top, the Herreshoff "S" Class of the Pearl Harbor Yacht Club, and, below, the Stars racing on the outside course

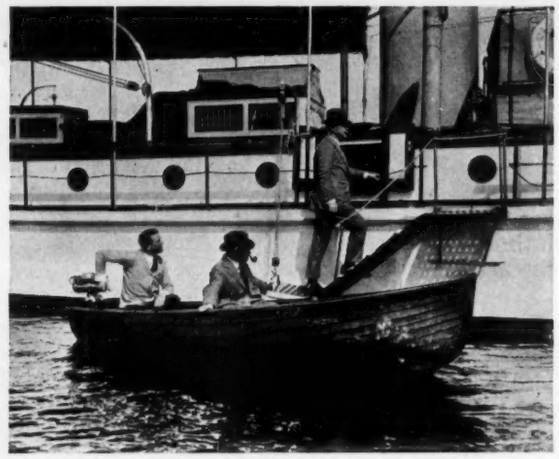
Hawaiian Tourist Bureau



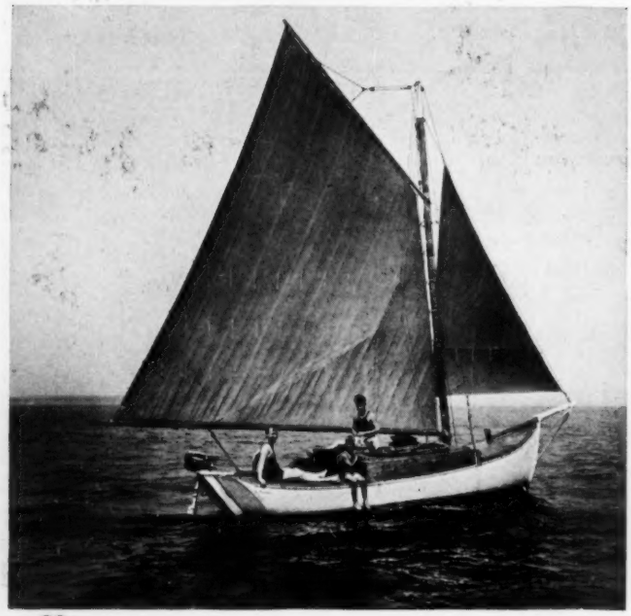


The uses to which the outboard motor lends itself are wide and varied

Top, left, moving an eight-metre racing sloop by means of two outboards suspended from floats secured to each quarter by a beam. Right. Anything that will float a man may become a speed boat



The heavy inboard power tender makes way for the lighter motor-equipped dinghy. Right. The fisherman finds the outboard a great help in getting to the fish. Bottom. Used as auxiliary power on sailing craft



Photos by M. Rosenfeld

Everyone enjoying themselves — even the dog. Outboard powered runabouts have been very popular of late

Outboards Should be Seen and Not Heard

The Development of Exhaust Silencing Has Rendered Quiet Operation of Outboards Possible

A FEW weeks ago I stood on the float at the finish of the 132-mile race from Albany and counted some thirty little "water bugs" with outboard motors attached that had just negotiated the long Hudson River course at speeds of well over forty miles per hour for the whole distance. It seemed unbelievable that these frail craft with various sizes and makes of "egg-beaters" on their sterns could negotiate the navigable length of the Hudson at any such speed. And as I looked my mind went back to 1911 when I owned and ran my first outboard motor. Ran it, that is, when I could get it to function properly. And this, I must own, was much more frequently than my total lack of mechanical training would warrant.

That rough engine, a more-or-less crude single-cylinder affair, created a sensation on Long Island Sound whenever it appeared on the stern of my 16-foot sailing dory. People would stop their yachts or circle 'round the noisy affair and stare. In the following years, yachtsmen quickly recognized the potential value of these handy little power plants, until today a portable outboard is a part of the equipment of nearly every yacht, either sail or power. Mighty handy they are, and frequently of great help in a critical moment. The engine has long since emerged from its growing pains into a highly refined product, so reliable and useful that it is worthy of the slogan "an outboard for every boat." Its uses are almost beyond enumeration.

With the above facts most yacht owners, or those who have occasion to use any type of small boat, are already familiar. They don't have to be told about the recent refinements, including the electric starter in place of the time-honored bight of rope wound around the fly wheel which caused so many lame shoulders a few years back. The only current objection to the modern outboard motor made by those who live in the vicinity where they are operated is the noise they produce.

It is unfortunate that so exceptionally useful an article as a portable motor should have ever annoyed any yachtsman, camper, or home owner whose house happened to be located on the water. Yet this has been the case in the past. But today, though one sees many more outboards in use, one *hears* them less. This has been due to the efficient silencing methods employed during the past few years. This is not to say that there are not still some noisy motors in existence; but it is the noisy ones that make the impression on the bystander while the silent ones go unnoticed. This is the way with most things in life. But today the outboard motor itself is not primarily responsible for this state of affairs and the blame can usually be laid on the operator.

Early in the development of outboard power plants the manufacturers took steps to eliminate this annoying feature through the underwater silencing of the exhaust and by the use of exceptionally large, oversized muffling devices. In fact, Ole Evinrude, whose name is always associated with the early practical development of the outboard motor, did his first work on underwater silencing some ten years ago.

The efficiency of the underwater silencer is due primarily to a large expansion chamber and down spout with an opening under water. The exhaust from the cylinder ports is first cushioned and cooled, thus being contracted in volume. Then it flows through a down spout which may be either funnel-shaped or cylindrical in form, and out through the opening where the remaining exhaust sounds are submerged beneath the surface of the water.

So much for the efforts of the manufacturers properly to silence the exhaust. But when the motor gets into the hands of the outboard enthusiast, this individual some-

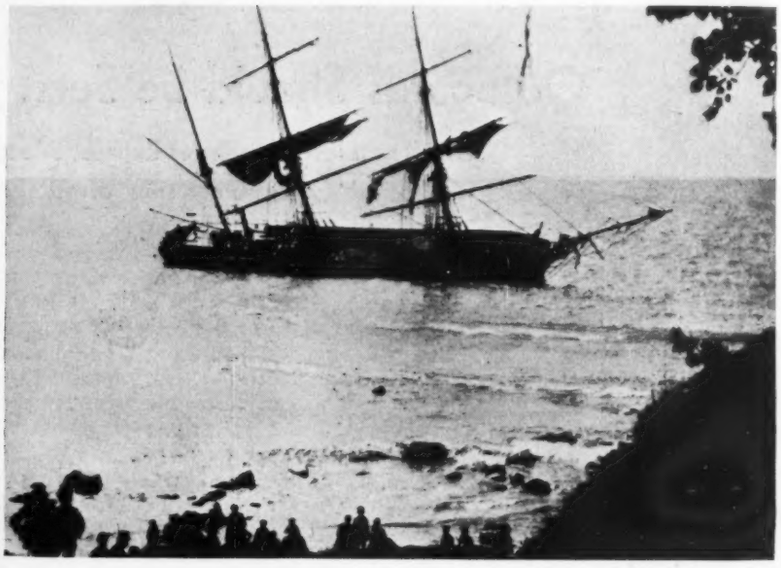
(Continued on page 92)

"Better a mile too far Than a fathom too near"

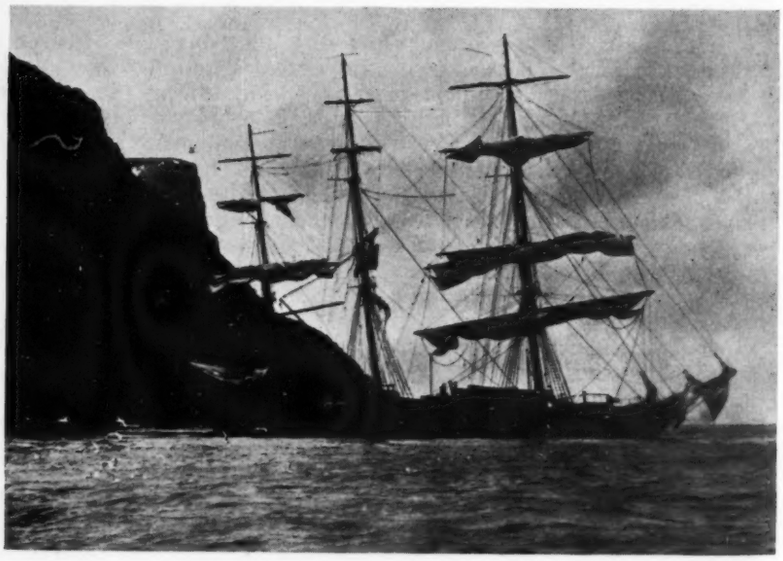
✦

The shore more frequently takes its toll of ships than the sea. Too little offing, an onshore set and a light breeze were the factors that wrote "finis" to the career of the British ship "Glenesslin" (left) on the rugged coast of Oregon, near Tillamook Head

A winter gale in the Baltic was responsible for piling up the Finnish wooden bark "Thana" (below) on the Island of Bornholm



The American bark "Pactolus" locked in the dreaded blue ice of the Arctic. A shift of wind moved the ice mass before she was crushed and she ended her days in a ship-breaker's yard instead of here



The Alaska Packers' ship "Star of Falkland" (right) laid her bones on the Alaska coast near the entrance to Unimak Pass in 1926. In a heavy fog she ran on a bold lee shore in calm weather. After striking she swung around, settled by the head, and filled. The 400 fishermen and cannery hands aboard her were saved

Photographs from the collection of Tom White

"Black Duck" with awning set, anchored in Vineyard Haven

The Forgotten Catboat

By

HIRAM HAMILTON MAXIM

I WAS born with a virulent case of boatitis, complicated with cruisitis in its most serious form. In spite of the best efforts of my family and friends, the disease has never been conquered, nor has the slightest progress been made in that direction. The germ lay more or less dormant for many years for the simple reason that it never had the opportunity to enjoy its favorite food, a good, but not necessarily large, bank account. It was encouraged in a small way, from time to time, however, by being fed during favorable summers with a substantial amount of sailing, and was thereby kept in a hopeful frame of mind.

Finally, in the dear, dead days that are gone forever, to wit, 1927, when we were told that prices would rise forever and that depressions had been eliminated from our national life, I felt that the cruising urge could be denied no longer, and started the search for something in which to cruise. I wanted a small, cruising, sailing craft, preferably an auxiliary, big enough to take care of myself and one or two other men.

In cruising experience I was entirely lacking, but I was only faintly aware of this state. I had always followed the current boating literature, and had read what books on the subject came to hand. I habitually pored over the designs in YACHTING, day dreaming of the places I could go in this boat or that. It was inevitable, I suppose, that I should come to the opinion that, for my purposes, a jib-headed yawl or ketch of 29 to 32 feet waterline would prove ideal. But it was obvious that this ideal boat was still beyond my means, perhaps for many days to come. Some compromise had to be reached.

With the Cape Cod cat I had always been somewhat familiar, particularly with those built by the Crosbys, at Osterville. I felt that the type was good and wholesome. Everybody always says the same things about catboats, and I had heard the usual comments. Ask a man for his unbiased opinion about a cat, and nine times out of ten he will say, "Oh, yes, they're first-class sea boats. Lots of room in 'em, too. Very comfortable; but I'd hate to have to handle that mainsail or boom in a breeze. The shallow draft is handy, but they're the devil to steer with too much wind aft. And the cockpit — I'd hate to get *that* full of water. Why it'd sink you. You get a lot of boat for your money, but give me a nice, snug-rigged ketch or a —." I had heard all this many times but, still, I always liked the looks of a real cat on the water. They seem so buoyant and able and hard to lick. A good cat was the answer to my problem.

So the compromise turned out to be a real Cape Cod catboat, apparently built by Manley Crosby about 1919. She was owned in Duxbury, was called *Black Duck*, and was 24 feet overall, same waterline length, 12 feet beam, 2½ feet draft with board up, and 5½ feet draft, board down. I drove up and looked at her one morning in August, 1927, and in ten minutes I was convinced that she would do. She sat on the water just right. She had a saucy and able sheer. And she had that unmistakable appearance of the one boat in a hundred that, more by luck than by wit, turns out to be the perfect compromise that all good boats are.

I confess that at this critical point I was guided by a kind providence. I did not have the experience necessary to judge the boat properly; something told me to buy her, and I did. It is pure luck that she turned out to be the best built and designed catboat I have seen in five years of poking about the home waters of these craft. I have looked at many catboats, but I have never seen one that represents a better balance of all the opposing details of a boat's design.

In my ignorance, however, I looked upon *Black Duck* as a stop gap which would serve well enough until prosperity should favor me sufficiently to put a yawl or ketch within my reach. But she has turned out to be

such a handy, satisfactory little vessel that I believe she should be discussed and described thoroughly as a type of cruising boat for the man whose cruising is limited to week-ends and a short coastwise cruise in the summer. The point I wish to stress is that at the outset of my experience I regarded *Black Duck* as a type only moderately satisfactory, and one with many serious drawbacks.

When I took possession, my boat had no particular cruising accommodations. She was all one enormous bunk down below. There was a coal stove on the port hand as you entered the companionway. The ice box was a rather rudimentary affair, forming the step for the starboard side of the companion. The centerboard trunk stood up in the middle, as is usual, and had a folding table built on to it that was just about right. There was no toilet, no dish locker, no real cruising gear. The cabin was shaped like an enormous piece of pie, 12 feet broad at the after end, and coming to a point just forward of the mast. At some period of *Black Duck's* life the cabin had been lengthened, so that instead of the conventional little catboat cuddy, it was about 14 feet long. Head room was four feet eight inches over the whole length of the floor. Foot room on either side of the center case was two feet wide — and in a small cruising boat give me foot room rather than head room. Sitting head room on the transom bunks was ample, the shelf that ran all around the house under the deck making a very nice back rest.

Under the cockpit deck, there was an antique. In a moment of unrestrained enthusiasm, it had been called an engine. Technically, this was correct; it would run, and run well and reliably. But it succeeded in disassembling itself before we got *Black Duck* home, although it actually was responsible for saving the ship in New Bedford harbor in a very sudden summer gale. This museum piece was immediately replaced with a Lathrop, 6 h.p., 2-cycle, make and break, single-cylinder engine with clutch and reverse gear, and a better engine never went into a boat of this type. *Black Duck* steers with a wheel. Gas tanks were under the seats on each side of the cockpit. The engine was covered with a more or less flush hatch. It was also bulkheaded off from the cabin. This engine will drive *Black Duck* 5¾ knots in smooth water and burn only a trifle over a gallon of gasoline an hour doing it.

That first day the mainsail was awful to contemplate. The boat was 24 feet long, but the main boom was 30 feet. It was obvious that I had to go out in the dinghy to put on the sail cover. The gaff alone was 22 feet long, and altogether the mainsail spread 675 square feet. There was no rigging except the usual forestay. Outhauls were rigged for the reefing cringles, so that shortening down was actually not so difficult after one learned the system. There were lazy jacks, and the gaff and mainsail ran up on a wooden track screwed to the after side of the mast with a trick slider and rollers. All halliards and the toppinglift belayed to cleats in the cockpit.

Well, she went pretty well the first season. In fact, she was so handy that it seemed worth while to make one or two obvious improvements. This process went on from year to year, and, to cut a long story short, *Black Duck* was eventually turned into a fairly complete cruising boat with a very complete inventory and a place for everything. The rough layout shown in the sketch of the plan view gives a better idea than words convey as to the way the accommodations were finally arranged. Today, she is a perfectly comfortable small cruiser for two or three men, with all the necessary comforts below, and all the necessary seagoing abilities outside. There is room for two big hulking loafers to lounge around below decks in the evening or in bad weather without tramping all over each other. The cook can go to work and fiddle around the galley and not tie up the rest of the boat. We have seated five at dinner in complete comfort, with three other guests in the cabin, and two more in the cockpit, with positively no crowding. There's plenty of room to *live* on the vessel, both on deck and below, and there is no feeling of being on top of the other fellow all the time. And remember, she's only 24 feet overall.

On deck, *Black Duck* has been changed very little. The enormous rig was left in her, and for this I have thanked my lucky stars many a time. The track on the mast pulled off the second season. That was replaced with the conventional mast hoops and gaff jaws and no more trouble ensued. A new sail was finally fitted and the reefing outhaul gear improved to make reefing easier. The rudder, of course, stuck out behind like the well-known barn door — to be exact, four feet, or one-sixth the overall length. The propeller, a solid 20- by 20-inch Hyde wheel, also sticks out behind the stern, the hole for it being mostly in the rudder. This is a handy feature, as a fouled line or seaweed can be cleared with a boathook without leaving the deck. She steers with an Edson gear and quadrant which has given no trouble. Seats were installed in each after corner of the cockpit, which improved the comfort of steering immensely, in addition to housing the five gallon water cans.

As I gained experience, both first and second hand, I realized more and more that *Black Duck* possessed qualities which far surpassed even the expectations of my most enthusiastic moments. I learned that, properly handled and rigged, all the disadvantages attributed to the catboat disappeared. I state this without qualification. Someone will surely ask, "How about running before a heavy wind? She'll turn right around and look you in the eye, and you know it." Even that situation can be met and licked with no unusual procedure, to say nothing of the fact that it is actually a very good quality of the type, rather than a drawback.

In 1931, I discovered that an acquaintance, Arthur Budlong, had also been suffering from a bad case of chronic cruisitis and we consequently took pleasure in getting together and talking over our symptoms. It wasn't long before we were cruising. He had been sedately raised on a diet of sloops, bugeyes, and other decent boats. Upon the cat he looked as an invention of the devil. When he first came aboard *Black Duck* he would glance darkly at the main boom and quickly avert his eyes with a faint shudder. I can imagine his thoughts. But I had the pleasure of seeing him gradually acquire a magnanimous toleration for the catboat, and finally, a conviction that a cat can be very nearly the best small cruising ship.

To bring out *Black Duck's* good qualities and to show how a catboat properly handled can be an excellent small cruising type, I shall describe a few of the experiences we had with her in the course of two summers' cruising. During 1931 and 1932 we cruised together in *Black Duck* two week-ends out of three, and during the summer, we had a delightful two-weeks' trip along the coast to the eastward. We ran into practically every variety of summer weather. While there can be plenty of light going along these shores at that time of year, there can also be some very lively little blows and there has been every opportunity to show up the weak spots in the catboat as a cruiser.

Let me tell you how we handled her in some tough going as well as in the lovely light summer weather. First, let me say that the dinghy is always brought aboard. It adds to the speed and is a much more seaworthy arrangement. I have an eight-foot Penn Yan dink made in the days before it was thought every cruising man was paralyzed in the rowing muscles. We cock it up on the port side of the cockpit, with the stern forward and the bow aft. One gunwale rests on the engine hatch and the other on the port coaming of the cockpit. This leaves half the cockpit clear, and makes a very comfortable back rest for the man off duty, who usually wants to park himself on the engine hatch where he can see everything. The starboard companionway is unobstructed and I can always dash below for a look at the chart.

What happens when it blows too hard? It was blowing too hard on the Fourth of July, 1932, when we were coming home from Fisher's Island. We had been weekend cruising in company with *Mermerus*, a converted "R" boat, and had spent a very happy two days loafing about Fisher's Island Sound. The weather had been clear enough but the barometer had been playing around 29.25 with very strong winds from the south'ard. Monday, when we started back to the home mooring in Hamburg Cove, eight miles up the Connecticut River, I was looking for almost anything. The breeze was light from the south, and while the barometer had risen to 29.70, it showed signs of having another sinking spell. I decided to pinch her up and get as much southing as possible. Anticipating strong southwesterly winds, I wanted as broad a run as I could get for the sea buoy off the river entrance, roughly, 18 miles away.

About a mile and a half north of Little Gull Light, the wind suddenly hardened to a strong breeze from S.W., and then began to increase steadily. We were carrying the full mainsail, the whole 675 square feet of it, and it wasn't long before she was overpressed. But we had learned our lesson long before, and knew that it never pays to overpress her. She'll go faster, and of course with far less strain on gear and crew, if you shorten down. By the time we had her hove to, and were lying comfortably on the starboard tack, the wind had increased in a hard squall to something that must have been very close to 35 or 40 miles. I had intended to take the second reef at the outset, in accordance with our usual custom of ignoring the first reef, but began to think more heroic measures were necessary. After taking a good look at the hard grey sky to windward, I made

"I've always liked the looks of a real cat on the water. They look so buoyant and able and hard to lick"

Right. "Black Duck" with a rap full in Gardiner's Bay

up my mind that this particular sample of our climate was worthy the honor of the third reef, which in the previous five years had never been tied down — and in it came.

My glib statement that we "hove her to" and "tied in the third reef" may stimulate a little curiosity as to the details of the operation in a 24-foot cat with a 30-foot boom, and mainsail to suit, with far too much wind and the sea making up fast. We do it this way.

First, we set up the topping lift fairly snug to support the boom. Then, lower away on the peak until the gaff is nearly horizontal, with most of the leach flapping in the wind. We then bring her hard on the wind, getting in the mainsheet at the same time. This is done rather slowly so that she will not go over on the other tack. As she comes up and luffs, the mainsheet is got in hard and made fast and the helm is lashed hard down. She loses headway and then falls off about broadside to the wind and sea, where she will stay indefinitely without any roll to speak of. The weather boom tackle is then snapped on and the boom pulled over into the crutch, and the tackle set up taut. She is now all lashed fast and ready for you to get to work on the reef points. The tack is next lashed, after lowering away on the throat, and the two outhaul tackles, one on each side of the boom, are hooked in to the outhaul cringles, which are now hanging just above the stern. The sail may then be hauled out taut, the reef points tied in as usual, and the throat hoisted away. The boom is next let go out of the crutch and the peak set up. The topping lift is slacked off, and you are on your way again. I have accomplished these maneuvers, single-handed, many times, with no trouble. With two, the process is a little quicker, taking about fifteen minutes, even in a rather bad blow. With the great, wide cockpit and house top you have all the room you want, and never feel as though you might go overboard at any moment.

This time we tied in the third reef first without touching the others. By the time everything was made fast it was really blowing — for Long Island Sound in the summer. We filled away on the starboard tack just long enough to get sufficient headway to bring her about, and then put the helm hard down, and around she came on her heel as she always does. In a moment we were on our way again with the weather becoming worse and the sky getting that hard grey look to windward that makes me wish I were home. It's in moments like this that I make up my mind that cruising is a vastly overrated sport, and that if I ever get home again I shall confine my sailing to easy day sails up and down the river on balmy summer days. But I always forget my resolutions in five minutes after the hook is down.

But, to get back to the story. We got going in fine style as soon as *Black Duck* filled away on the port tack. She balanced perfectly, with only the slightest weather helm. The wind was about two points forward of the beam. The sea was beginning to show signs of shortly becoming a nasty, steep chop. We kept a compass course that would bring *Black Duck* out at the river buoy with a good weather berth. Visibility was somewhat limited. The ship had all she wanted with the third reef tied in but she handled perfectly at all times. She was easy on the helm and never for a moment gave us cause to feel that she was anything but under perfect control.

The run from West Harbor, on Fisher's Island, to the Connecticut River entrance was made at an average speed of 5½ knots, and in this is included the time for reefing. *Black Duck* must have been making 6 to 6¼ knots through the water. This in a 24-foot boat, with a breeze of 35 to 40 miles an hour two points forward of the beam. For the last half of the run the sea made up in good style, but here the catboat showed one of her particular qualities. She was on top of everything. She took no solid water on deck, although there was a good bit of spray flying, most of which blew over the ship to leeward. A total of about a bucket and a half of water came into the cockpit.

In the middle of the run there was one very vicious squall. I hesitate to state my opinion of the wind's velocity, but it certainly was the hardest puff I have ever faced. For about three minutes I thought we would have to break out the trysail and run for New London. She actually had the rail down, which in a catboat is something. However, she handled well and I luffed her along a little while waiting to see what would happen. The wind really was alarming. But in another five minutes it had moderated and we were tramping along with a rap full.

I really think that there are very few types of cruising boats of her size that would have handled as well, or which would have given us a feeling of confidence under these conditions. She never seemed to stall, and instead of making leeway she actually crabbed a little to windward as she always does when hard pressed on the wind. We made the river buoy just where it should have been and ran up to the mooring in Hamburg Cove.

In light weather it's a different story. Off the wind, in a light summer breeze, sailing in a good cat is a delight. That's when they get up and go. Once I made the run from the Connecticut River to Fisher's Island in late afternoon. It was a beautiful evening and there was a nice southwesterly breeze. The course from the entrance buoy, off the river, to Bartlett's Reef Lightship, brought the wind over the starboard quarter pretty far aft. The mainsail was swung out with the boom almost at ninety degrees to the axis of the boat. There was a nice little sea running, but nothing to bother us. The tide was on the ebb and everything was set for a good run.

We were close aboard the river buoy at 6:50 p.m., and one hour later, we were abeam, close aboard Bartlett's Reef Lightship. The distance is very close to 8⅝ nautical miles. The tide, in all probability, was not running more than a knot and three quarters, but for the sake of the argument, let's say it was running two knots. That makes the ship's speed in the water 6⅝ to 7 knots. And it was really rather light going. In my experience, there are very few boats of 24 feet which will run in this manner in light weather. That enormous mainsail just carries her along in a breath of air without the least fuss or bother.

One reason why a cat will do so well off the wind is that, without shrouds, the mainsail can be set out far enough to catch the wind at the most efficient angle. With a jib-headed sail, with its shrouds and spreaders, the boom can be set at a maximum angle of only thirty-five to forty degrees, when the sail begins to become too intimate with these necessary adjuncts of a tall mast. Therefore, with the wind well abaft the beam, there is not the same driving force.

It is pretty generally admitted that the catboat is at its best when sailing off the wind in light weather, and that, properly handled under those conditions, it is hard to beat a good cat. The universal criticism of the type is that when it blows too hard from astern, the cat cannot be handled at all. This is certainly true when she is carrying too much sail, and I make no attempt to minimize the difficulty. I have had *Black Duck* turn right around and look me in the eye with the enormous rudder hard over. This is the only point of sailing on

(*Continued on page 78*)

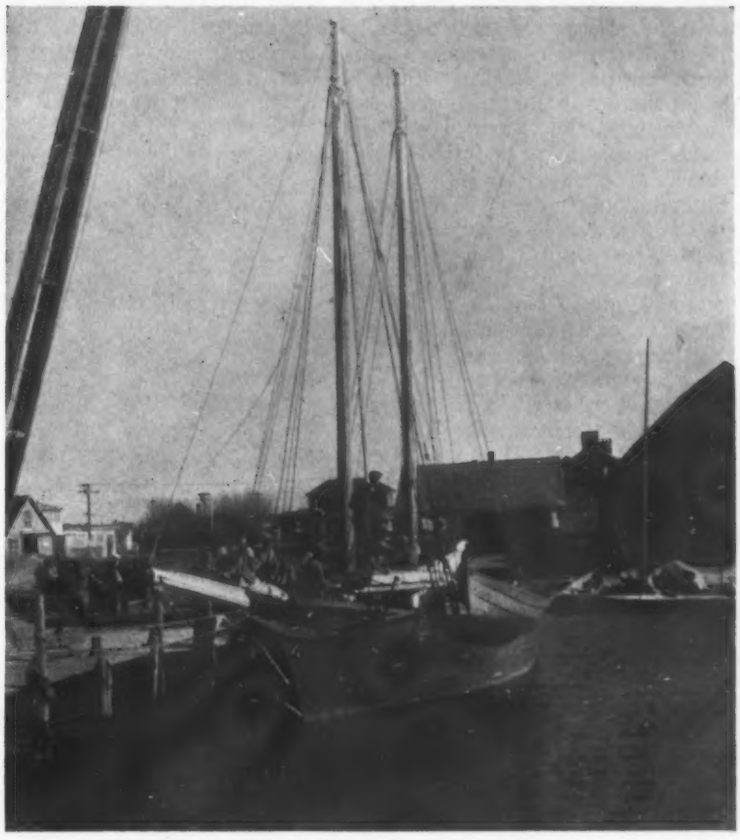
Old "Emma" Comes to Barnegat

Part II

The 65-Year-Old Smack Meets with Some Difficulty in Adjusting Herself to Modern Conditions

By

F. SLADE DALE



"Sixty-five years old and still going strong"

IN MANY ways the old-fashioned *Emma C. Berry* has had a tendency to simplify our existence during the past year, but for the first few days immediately following her purchase life seemed very complicated.

No less a sailor than Conor O'Brien is responsible for giving support to the statement that the only way for two people to get through a long voyage together is to live in opposite ends of the ship and never speak to each other. Peter and I thought this would be a good idea to apply to our vessel, so we took up our quarters in the forepeak and left the two motors to themselves in the after cabin. We didn't speak their language and had no desire to learn it; in our innocence we thought it would be sufficient to say "Good morning" to them when we got underway and "Good night" when we shut them off after a successful day's run.

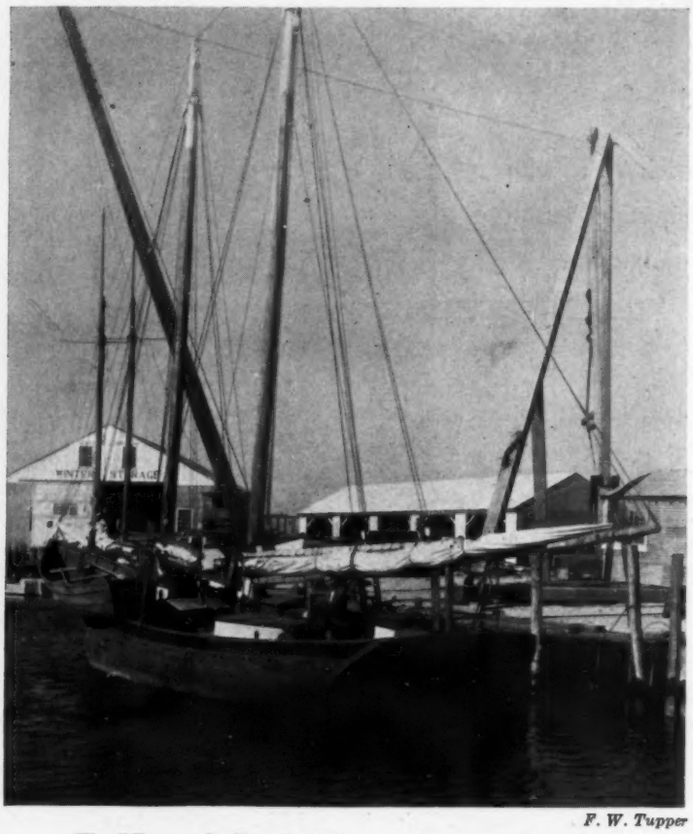
But of course the scheme didn't work, because the motors refused to be left alone and demanded constant company. Indeed, it is doubtful whether we would ever have reached Boothbay Harbor and the peaceful simplicity which new canvas subsequently brought us, if it hadn't been for an old shipmate who joined us at the last moment. Frank Coyle had cruised to Florida with me by sneakbox, six years before, and he still had cramps in his legs as a result. I thought this would be a good chance for him to cruise in a spacious boat, with broad decks on which he could promenade — 125 times around to the mile — and a cabin in which he could yawn without sliding back the hatch. The *Emma C.*, I telegraphed, was greater in beam than the length of our sneakboxes and she had two good, though old, motors — but if he didn't mind bringing a few tools. . . .

We hadn't gotten further than Shabbit Island Ledge, which is the Robbin's Reef of Jonesport, when the starboard motor cried for help, and no sooner had Frank applied first aid with a tourniquet around the water pump and a wire and a piece of string on the ignition mechanism, than the motor on the port side wheezed a sad call for attention also. From that moment Frank did all his promenading below decks, and except for occasional time out to catch a wink of sleep or to take the wheel for a spell, he spent his days and nights hovering over his motors — *his* motors because Peter and I had disowned them, come what might. There were various definite things wrong with them, which Frank successively repaired, but I forget the details of their ailments. I do recall, however, that the starboard motor was a 2-cycle affair with one cylinder, which meant, in layman's language, that the chances were two-to-one that it would give constant trouble. And the port motor was a 4-cycle mechanism, with only half as many scheduled explosions, but it exploded in the crankcase as often as on the proper side of the piston, and it had valves and a clutch besides. Frank said it had two cylinders.

If Skipper John Henry Berry thought he had any worries back in 1866 when he went codfishing along the rips of Nantucket Shoals, or anchored in 25 fathoms when the weather got thick or threatening; if he ever had occasion to doubt the gay young *Emma's* ability to beat her way down to Fulton Market with an extra big load of fish, or questioned her safety when hove-to under reefed foresail — if he ever had any misgivings under these circumstances, his ghost must certainly have paced our deck uneasily as we threaded our uncertain way amongst Maine's rocky ledges. Not fit to go offshore without canvas, *Emma* was no better equipped to go coasting under power; occasionally, in a broad open space, both motors would perform rhythmically, but let us approach a narrow pass or a jagged rock and

first one motor would cough and stop and then the other. And when we thus came to a halt and all might have been quiet except for the tinkering of Frank's wrenches or the sizzling of his arm on a hot exhaust pipe, there was the moan of an onshore wind in our bare rigging and the swash of waves on ugly rocks. Maine cruising seemed to be full of problems; I much preferred Jersey sand and Barnegat mud.

In the three days that we spent on the way from Jonesport to the sail loft in Boothbay Harbor we thought a good deal about the changes that time and man had wrought in *Emma*. We visualized Skipper Berry standing confidently at the wheel of his substantial ship, but we couldn't imitate him successfully for under our feet were two 50-gallon drums of potential dynamite, which slopped liquid gasoline out of their leaky tops and effused inflammable vapors into the bilge. Sparks from the exhaust pipes eddied around the cabin trunk, to be drawn through the companionway into the abysmal depths of Frank's engine room, and in our minds it was just a question of which tank was going to blow up first. John Berry had slept peacefully in the after cabin, surrounded on all sides by solid oak frames, oak planking, and locust trunnels, and with a sweetly salted bilge to contemplate; but we had been displaced from our lawful berths by the heat and filth of the Machine Age, and the only thing we could contemplate was the relief that would be ours when we were no longer forced to enjoy the benefits of such modern conveniences. *Emma* disliked this modern mechanical touch too, and did her best to shake herself loose from the motors, but it's hard work shaking ten tons of pebbles and *Emma* had to give up the idea and bide her time.



F. W. Tupper

The "Emma C. Berry" at her new home port, Bay Head, after her voyage from Maine

A week at Boothbay Harbor worked a big change; John Howell and Sanford Hyler fashioned us a new suit of sails out of No. 8 canvas, smartly tailored to fit all the curves in *Emma's* sprung spars, and the crew stiffened up the masts with new lanyards and wired home for money. Then, one afternoon, *Emma* sallied forth in her new attire, with nothing but silence issuing from her humbled exhausts, and the next evening she completed her shake-down passage, a sort of old-maiden voyage, when we groped our way to an anchorage outside Plymouth Harbor.

Under sail *Emma* showed her true self; docile and mellow she was, but capable of bestirring herself in lively fashion when there was a wind worth getting enthusiastic about. It was those motors which bothered her, and while at first thought it might seem that a mixture of grease and cylinder oil in the bilge would be no worse than an emulsion of fish gurry and salt water, still, there were the ethics of the thing to be considered; smacks of the Civil War period were meant to *sail*.

We watched a rising breeze develop into a full-fledged October northwester, and under the stern we could see two deep grooves cut in the water by *Emma's* dragging propellers. Being timid yachtsmen and not real salts, we began to think about reefing, but *Emma* simply braced herself with her two hard bilges planted far apart, and whistled for more wind. We wanted to foster such a spirit, so we made everything fast and stood out from under. *Emma* piled a tumbling wave high under her bow but reeled off the miles in spite of it, seven and a half nautical ones every hour; we could only guess how much faster she might have gone if her clean run hadn't been cluttered up with so many propellers. Frank decided that she was trying to rid herself of the motors by dragging them out through their stuffing boxes.

And as *Emma* boiled along we wished all our friends could be aboard, for this was *sailing!* Here we had an old vessel rich in the sentiment that clings to craft that serve a useful purpose in life, and endowed with physical qualities not possessed by any yacht. Ours was a vessel that wouldn't make us slaves to paint and varnish; we could welcome friends on board with hobnails in their shoes, and we could let the dory bump alongside all night without worrying about the topsides. Being more burdensome than the yachts we had cruised in, *Emma* would afford us a chance to stow all the extra gear and duffle that we might accumulate, and when we went sailing anywhere in a hard breeze we'd go standing up, with bilge water lying in the bilge instead of climbing into the loo'ard bunks. We could chop wood on deck and not worry if smoke from the galley stove smutted up the foresail; we could have a workbench in the forepeak and a sail loft in the hold, and if we dropped a marlinspike from the masthead we'd know it wouldn't go through the deck; we could confine our expletives to the bother of retrieving the spike. If we wanted a shelf put up in the galley we wouldn't wait to have it done in a boatyard; we'd do it ourselves with any old piece of soapbox or driftwood, and we'd hang our clothes on boatnails driven into the bulkhead. With empty pocketbooks we could patch and splice and caulk our way through a depression, and instead of looking

shabbier and shabbier our vessel would become, in our eyes at least, more and more picturesque. We could cruise to Baltimore and Norfolk and make an anchorage alongside big schooners — and berate with feeling the barges, tugs and motorboats which have made things what they are.

To be sure, we'd go places a little more leisurely, and require more time to beat out of a narrow entrance, but our season would be twelve months long instead of three and, anyway, there'd be no hurry about anything. We'd have room below for a coal stove in the middle of the cabin floor, and if there was too much snow to work on deck in January we could chop our wood in the hold and spend the day roasting a leg of lamb or a canvasback; we'd do our marketing in duck blinds and fish pounds, and in the Chesapeake we could make all our anchorages on top of oyster beds. It would be a pleasant life aboard *Emma*, away from radios and telephones, and we could live cheaply, too. We'd be one of many struggling little vessels along the seaboard, poorly rigged of necessity and financially unsound, endowed chiefly with a scarcity of cargoes. And if we *should* just happen to cast admiring glances at a shiny yacht once in a while, nobody would know what our true thoughts might be and we could swear aloud at all her brass and varnish — and wait until nobody was watching before we looked her up in Lloyd's to see who designed her and who might be her lucky owner.

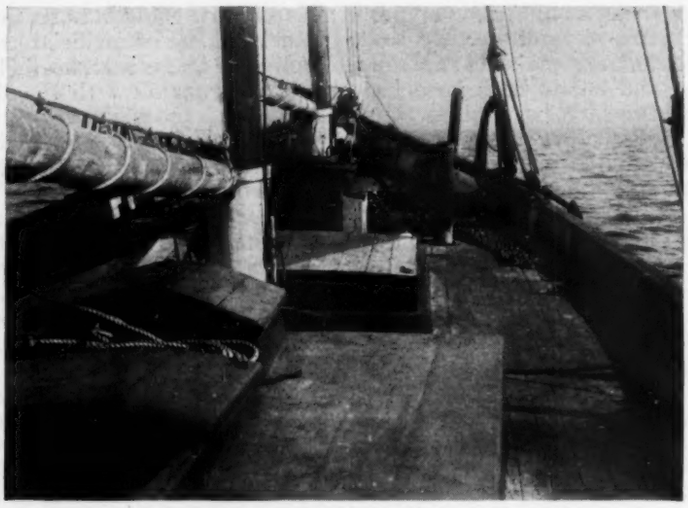
As *Emma* bowled along we sang her praises, and it was a lucky thing we did so while we could, for presently we committed a tactical blunder that "riled" the old ship's nature. We chose a course homeward by way of the Cape Cod Canal and attempted to force *Emma* through it against her better judgment — *Emma*, who had grown up on Nantucket Shoals and knew her way blindfolded around the Cape. Motors and gasoline and propellers were a discordant enough note in her ancient atmosphere, but anything as artificial as a dredged canal was pure poison to *Emma* and she did her utmost to mark the spot once and for all with the skulls and crossed bones of her crew.

We tore down Cape Cod Bay and approached the canal with a flourish; we got there so quickly that only one motor was ready to run, and as we lowered sail and were swept into the government waterway by a strong current, we were dismayed to discover, simultaneously with a signal from an official-looking person on shore, that we had no control whatever over the direction in which the hitherto docile *Emma* chose to point her rangy bowsprit. A puffy head wind from behind the trees took charge of our bow, a helpless rudder argued feebly with a fitful motor on the starboard quarter, and the quickening current carried us bodily forward through the canal. The man in uniform shouted to ask our tonnage and where we were going. We gave him our tonnage, and as we sped past with the current, moving more like a crab than a schooner, we told him that so far as destination was concerned his guess was as good as ours. We hoped we'd fetch the shores of Barnegat, but just then it looked more like the abutment of the bridge.

We blew for the draw and it opened just in time to let us wiggle through with scant clearance. The current was growing faster than ever, for some strange reason, and we were being swept along at an inspiring gait, although our inspiration was mostly a sense of impending trouble. Then a long stretch of canal lay before us and we had time to wonder what we would do if we rounded the bend in the distance and discovered at the last minute that the draw tender had not opened for us. We decided to have a rehearsal in the art of coming to a stop, so we planned the strategy that would bring us head-on into the current with the least destruction to *Emma* and the canal.

Top. "It is probably just her seagoing nature which accounts for all her virtues." Above. "Outside the window 'Emma' herself is lying peacefully in her slip"

We hauled over to the north bank, signaled Frank's department for full speed ahead on the starboard motor, waited a moment for a favorable puff of wind and a little more courage, and then spun the wheel. Deliberately *Emma* started to turn, got halfway around, then picked out one of the electric light poles that line the south edge of the channel and headed straight for it. The deck crew was properly panic-stricken. "Back her, back her!" we shouted to Frank, and rolled the wheel; by some miracle we swung back in time and *Emma* regained mid-channel, doubtless wondering whatever made us think she could turn around in a couple of lengths anyway. We started forward again through the canal, and Frank went to work on the other motor; we thought that with its aid we might twist *Emma* around by going ahead on one motor and in reverse with the other. Once, off Diamond Shoals, I had watched Captain Barlow coax the four-master *Herbert L. Rawding* from one tack to the other by trimming the spanker to windward and backing the foresail. "She's *got* to come," he had said, while we stood waiting anxiously for her to respond, "or break in two." But *Emma's* feeble motors could hardly have broken a match in two and although we tried many maneuvers and all sorts of combinations she always kept forging ahead through the canal, obviously with no desire to stop while she had such a strong current going in her direction. We expressed our opinions of the motors and they promptly retaliated by quitting altogether. Then, without steerageway, we were more helpless than ever, and the landscape continued to fly past with unabated speed, until we heard the formidable blast of a tug around the bend. *Emma* heard it too, and the instinct of self-preservation, more than anything the crew was doing, caused her to run her nose into the bank and pause a moment while her stern swung around with the current. We got an anchor overboard before she could gather sternway and by the time the tug reached us we had things under control, and *Emma* was veered off to one side to leave a safe margin of clearance. We were at work on the motors with cold chisels and hammers when the tug swung by.



"We could chop wood on deck and not worry if smoke from the galley stove smutted the foresail"

"What the hell are you doing there?" somebody called to us, tugboat fashion.

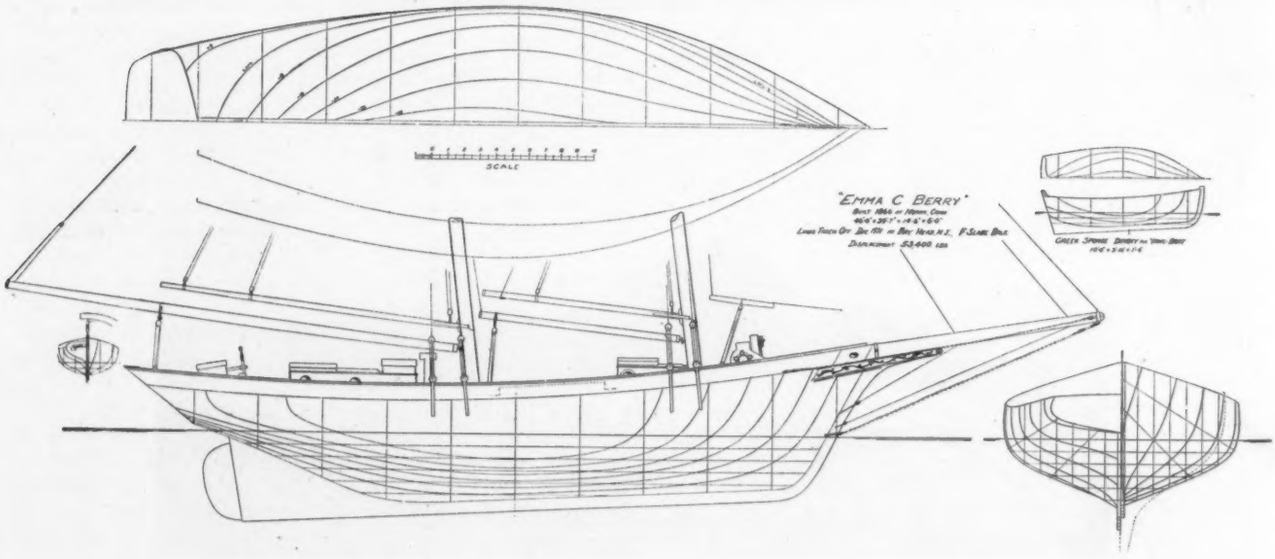
"We're not eating lunch," we replied, and then thought of all the things we might have said.

At the end of an hour Peter and I had completed the destruction of the starboard motor and were ready to give Frank a hand with his, but he waved us away. His motor was just beginning to turn over voluntarily when one of the canal engineers' boats came up astern and an imposing officer began writing down our history in a big black book, or as much of our history as he could piece together from the name on our stern and the telephoned report of the official at the canal entrance.

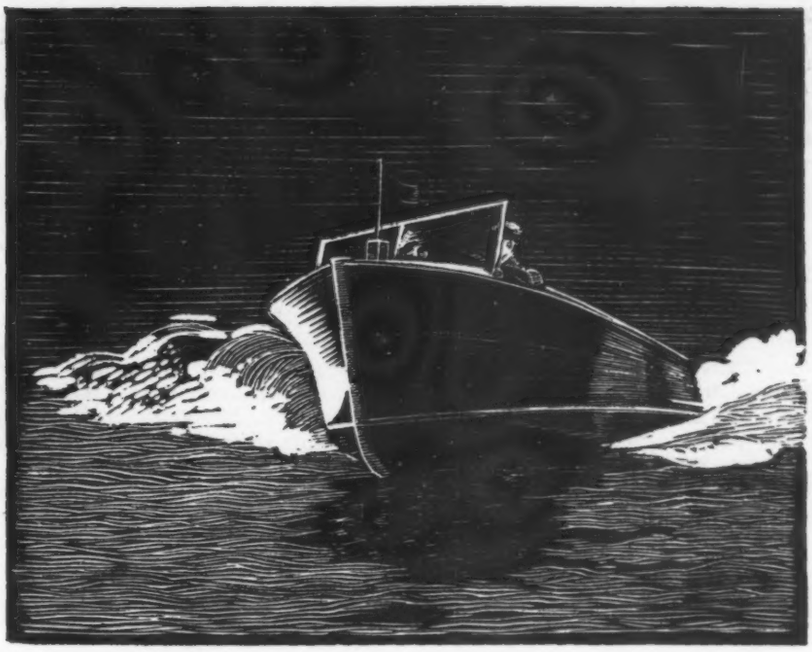
"You've got us all blocked up!" he bellowed, "and there's a big tow coming through. You can't stop in the canal!" He didn't know *Emma*.

"If you'll give us a line and get us turned around again, we can keep going," we explained confidently,

(*Continued on page 82*)



The lines of the "Emma C. Berry," built in 1866. The dotted lines shown in the body plan indicate the midsection of a modern yacht



From a wood cut by C. E. Pont

Propeller Shaft Bearings

By

GEORGE F. CROUCH

IT IS difficult for one who has had no experience in designing and building marine equipment to form any adequate conception of the immense amount of time and research which has been given to every detail of a well thought out boat. Only too often the owner or the salesman belittles the effort of the naval architect and marine engineer and compares the results of his ability most unfavorably with those which have been attained in other branches of engineering. Such critics always forget the ever present salt-water problem which complicates every aspect of the work entering into a boat. In the construction of the hull and the joiner work, in finish, and particularly in the power plant and all its accessories, this question of the effect of salt water must be constantly held in mind by the builder and the engineer. Details of construction which work to perfection on land may be entirely unsatisfactory under boat conditions.

In a previous article, I have said something about propeller shafts and stuffing boxes and the problems which they present. This time I shall discuss those propeller shaft bearings which are outside the hull of the boat, either in the struts or on the outside of a deadwood. If it were not for the fact that these bearings are in the water, it would be a simple matter to make them fool-proof by using some form of enclosed ball or roller bearing — provided the diameter of the bearing was kept small so that it would not create excessive resistance. When properly mounted and enclosed, no known form of bearing requires as little attention as a good ball or roller bearing. It has only two enemies — dirt or grit and corrosion. For use on the shaft inside the boat, when bearings are needed to steady a long shaft line, ball bearings so enclosed and mounted that all dirt and grit are kept out of them, and flooded with oil so that the damp air cannot reach the steel parts, cannot be equaled. Many of the larger Diesel yachts are equipped with line bearings of this type. Smaller motor boats seldom require these inside bearings, and even when they do, a cheaper and simpler form of bearing is used.

But the strut or stern bearing is quite another thing. Here the bearing is immersed in water and no matter how carefully one tries to protect it by seals or stuffing boxes, water will surely find its way into the bearing and ruin it, if a ball or roller type is used. In addition to the corrosive action of the water, the outside bearing must contend with grit and dirt carried by the water. This is a very serious matter in some localities where the water carries large amounts of sand or other abrasive matter in suspension. The Magdalena River, in South America, carries such a sharply abrasive grit in suspension that it will take the paint or varnish off a high speed boat almost as quickly as if a sand blast had been blown against it.

Perhaps you will ask why ball or roller bearings of some non-corrosive metal cannot be used in the struts in place of those of steel. So far it has not been possible to make the races, balls and rollers of any non-corrosive material with the proper degree of hardness. That may come in due course as the metallurgy of the stainless steels and other alloys is further developed. But even should such a process be perfected, it must be remembered that dirt, grit, and sand are fully as destructive to

this type of bearing as is corrosion. When the roller or ball presses a little particle of grit into the bearing, it causes a small indentation of both the race and the ball or roller. Repeated action against this little pit causes the race and the roller to chip in that particular spot. Once chipping starts, the bearing is soon destroyed.

For the present, at least, we must be content with some form of shaft bearing which will stand up better than the ball or roller and which can be replaced easily and cheaply when it is badly worn. There are at least six different forms of strut bearing in general use today, and the very fact that there are so many types from which to choose is proof in itself that no one of them is perfect.

The simplest form of strut bearing is that in which babbit is poured into the strut around the shaft. If this could be kept well lubricated with oil or grease, it would be quite satisfactory when running in water which was free from silt, sand, or grit. But a satisfactory way to lubricate a bearing of this type has never been found. Sometimes a grease tube is carried down the after side of the strut, or the strut may be drilled so that oil or grease can be forced down into the bearing. The difficulty encountered arises from the fact that the water washes the oil or the grease out of the bearing almost as rapidly as it is introduced. The ordinary grease cup, which is turned down occasionally when the operator happens to think about it, is useless. Grease cups of the spring compression type are better, and when used with waterproof grease they do help considerably if they are kept filled and turned down. But the average bearing using babbit in the strut depends upon the water for lubrication and cooling. As far as cooling is concerned the results are satisfactory, but less so the lubrication. Babbit also possesses the fault of retaining on its surface any particles of grit which enter the bearing. These particles act rapidly on the shaft. It is not uncommon to see a shaft almost cut in half by this action. When the babbit wears so that the shaft is a loose fit, it can be removed easily and new babbit poured in around the shaft. I have not the space at my disposal to go into the details of babbitting a strut, but must give one word of caution. Be sure that there is plenty of clearance for the shaft. It must not be a tight fit in the babbit or else you are due to lose speed. The shaft may seize in the babbit, with a broken shaft or a broken strut as a result.

Another old and conventional form of strut or stern bearing — particularly for larger boats — is formed by fitting small pieces of lignum vitae into a bushing in such a way that the end grain of the pieces bears on the shaft and forms the bearing. As will be seen from the sketch, little water channels are cut between the pieces so that the water can enter the bearing and act as a lubricant. Even for the small racing motor boat, lignum vitae is a very decent strut material. I have seen such a bearing taken from one of the recent Gold Cup boats after it had run several hundred miles and the wear was inappreciable; and even this particular example of a lignum vitae bearing was not "end grain" but only a simple little shell turned up in one piece with its outer diameter just the proper size to fit into the strut and the inside diameter reamed to give about five- or ten-thousandths of an inch clearance for the shaft.

A very satisfactory method of making a durable and cheap lignum vitae bushing for a small motor boat is to make on a lathe a series of flat discs, each about a quarter of an inch thick, making enough of them to fill the hole in the strut where babbit would usually be placed. The outside diameter of these discs is such that they can be forced into the hole in the strut and the inside drilled to take the shaft. The discs are then assembled in the strut so that the grains of the discs cross each other, giving the effect of end grain at different spots along the bearing. After assembly, the discs are locked into place by a gland nut and are then reamed to give a fairly liberal clearance on the shaft. And do not forget to put in the channels to carry water to all parts of the wood, because the life of a lignum vitae bearing depends on having it run in plenty of water. Bearings made in this fashion have shown years of use, while babbit might not last a single season.

With the development of special bronzes for bearing material, the use of a bronze bushing in place of a lignum vitae or babbit bearing in the strut has been quite successful. There are many bronzes suitable for this service — Agrolite, Beemet, Promet, Sumet, Bantam, special phosphor bronzes and many others in varying degrees of hardness. For the best results, with bronze just as with babbit, the bearing should have grease lubrication, but if the clearance is not less than ten-thousandths of an inch for shafts up to about two inches, they do fairly well, provided plenty of water is circulated through them. They possess the advantage that a worn bushing can be replaced easily, but the hole in the strut must be reamed to the exact outer size of the bronze and must line up with the center of the shaft.

A comparatively recent development in propeller shaft bearings is the special rubber shaft bearing. How they were invented I do not know, but I have been told, in all seriousness, that the idea came to the originator of this bearing when he stepped on a smooth and wet manhole cover while wearing sneakers having smoothly worn rubber soles. The resulting fall startled him so much that it jarred his brain into action. The rubber bearing was the final outcome. Each one of us knows how slippery rubber becomes when it is wet.

The idea of using rubber for the bearing and lubricating it by water presented many problems in the course of its development until it was finally perfected by one of the large rubber companies. Proper compounding of the rubber, proper curing, and proper shaping of the grooves in the bearing to give perfect lubrication by water at every point of contact between the shaft and the rubber, required years of careful research. In its present stage of development, the bearing consists of a thin bronze shell into which is vulcanized a layer of soft rubber, fluted with fore and aft channels for the water. This is the form used for high speed shafts of small diameter. When used in large commercial and naval ships, the water channel is usually in the form of a continuous spiral.

Since the life of the bearing depends on having plenty of water, this is the important thing for the builder to consider when he installs it. Without water, the rubber soon wears out. Every case in which these bearings give trouble can be traced directly to a lack of copious water circulation through them.

When used in water containing sand and grit, the rubber bearing has another advantage over metal. The small particles of grit are not held in the rubber, but are rolled across the rubber by the shaft into the water channels and then washed out. Shaft and bearing, when rubber is used, last many times longer when run in sandy water than will any other form of bearing.

Rubber bearings have another good feature. Due to the fact that there is no metal-to-metal contact with the shaft and bearing, the vibrations of the shaft are insulated from the hull. If rubber engine mountings and

flexibly mounted stuffing boxes are used, the whole power plant can be isolated, with a resulting decrease of noise and vibration.

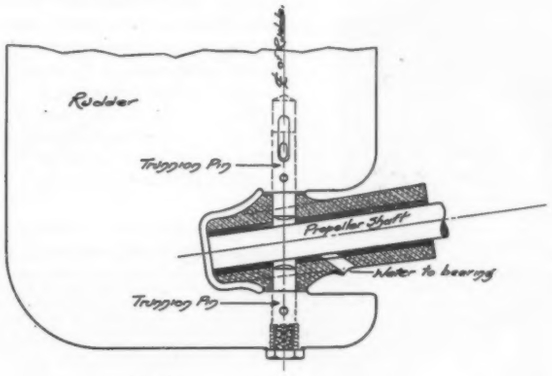
Still another form, which is used as a bearing on the stern post more often than in a strut, is a special flax packing built up in rings to a length of about six or eight times the diameter of the shaft. The packing is compressed by a gland nut at one end so that it is packed tightly into the box. This bearing has had extensive use in many fishing and commercial boats and gives good service when properly made and when the proper grade of packing is used. The packing should be of special long-fibre flax impregnated with tallow, and should be hard braided. If the soft type of flax packing is used, the bearing is sure to give trouble. Packing should be cut into rings of the proper diameter in the same fashion as for the ordinary stuffing box. In fact, this bearing is nothing but a very much elongated stuffing box, and like a stuffing box, it can be set up so tightly that it will grip the shaft and reduce the revolutions very greatly as well as cause the shaft to heat. This bearing, unlike those previously described, does not depend on the water for lubrication but on the tallow in the packing. When first set up, it is necessary for the operator to run at greatly reduced revolutions for some time until the tallow has worked out around the shaft and until the packing has been formed into a smooth and partially glazed bearing surface.

A new form of bushing which was used with great success in one of the Gold Cup boats last year is made of a special compressed paper. In the boat in question, this bushing showed almost no wear after a rather strenuous season of racing and testing. The bushing is thin — only about an eighth of an inch in thickness — and has water channels in it much the same as those in the rubber bearing. Here again, water is the vital lubricating medium for this bearing. Without water it would soon cut and show excessive wear.

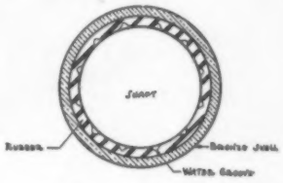
If there is any doubt about getting the proper water supply to a bearing, it is best to be on the safe side and put in a little scoop at a point on the hull or strut where there is certain to be a positive flow of water past it. Then carry the water picked up by the scoop into the bearing by a tube. In general, it is not safe to count on taking much water into a bearing by leaving the end of the bearing directly behind the hub of the propeller open, trusting that the water will close in behind the hub quickly enough to go into the bearing. A far better practice is to put some sort of scoop, or similar device, on the bottom of the strut to pick up the water.

Many of the modern racing boats carry the rear bearing for the propeller shaft in a trunnion at the bottom of the rudder. Some designers do not agree with the writer that this is a most desirable feature, and they do get very good results with the more normal arrangement of strut ahead of the propeller, the rudder being entirely separate and behind it. This trunnion bearing in the rudder was invented over twenty years ago by W. M. Fauber to whom are due many of our most modern ideas about fast racing boats. His reasons for using this bearing behind the propeller are as logical today as they were when he first used it — in fact, more so, as speeds have increased since then. When the strut is placed a short distance in front of the propeller, it is almost impossible to prevent serious cavitation. With nothing ahead of the wheel, the boat is quicker on the "get-away." Another advantage of carrying the rear bearing in the rudder and dispensing with the strut is that when turning, there is nothing to prevent the stern swinging around quickly. When a deep strut is placed at the stern, this presents considerable resistance to side motion of the stern and produces a larger turning diameter. Note that the foregoing holds true only of boats with stern rudders. If a bow rudder is used, then there must be a fairly large fin or strut at the stern.

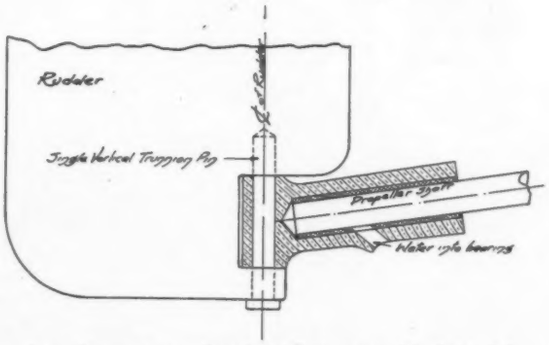
(*Continued on page 88*)



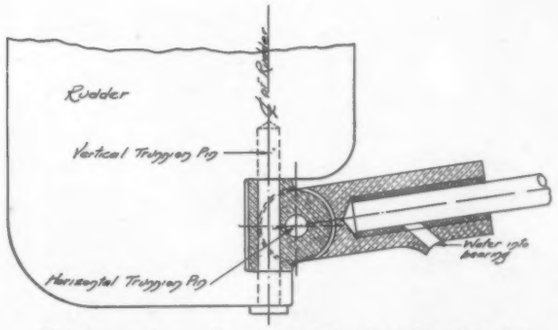
Left. Propeller shaft bearing in rudder behind the propeller. Shaft extends aft past the trunnion pins, about one-third the length of the bearing



Above. Section through patented rubber stern bearing showing water grooves

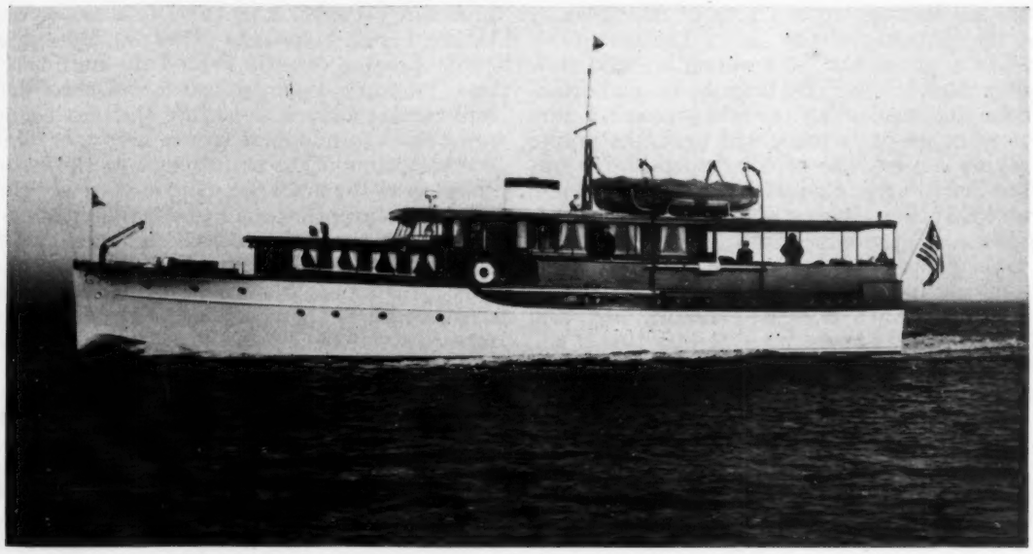


Second type of propeller shaft bearing in rudder behind the propeller. This is simpler than the first, but the bearing is farther away from the pivoting point



Third type of propeller shaft bearing in rudder behind the propeller. The horizontal and vertical pins give a universal action to the bearing

"Linmar"—A New 77-Foot Diesel Cruiser



"Linmar," owned by J. Howard Marlin, of Pine Orchard, Conn., was launched this spring from the yards of the New York Yacht, Launch, and Engine Company. By "stepping up" the profile from the large dining room deckhouse forward to the main deckhouse amidships in excellent proportion, the profile has been kept remarkably low considering the unusually spacious accommodations above decks. The living room in the main deckhouse opens conveniently aft to a broad lounging deck. By employing semimodern treatment in the decoration of the dining room, the feeling of spaciousness is enhanced. "Linmar" is powered with two 150 h.p. Winton-Diesels

M. Rosenfeld

"Viking," converted from a Coast Guard surf boat, made an able auxiliary ketch at small cost

The Metamorphosis of "Viking"

Converting a Coast Guard Surf Boat Into an Inexpensive Cruiser

By

BURRITT A. PARKS

FROM time to time YACHTING has published interesting accounts of the conversion of life boats or ship's boats into practical and serviceable pleasure craft. Possibly an account of how a 26-foot Coast Guard power surf boat was converted into the auxiliary ketch *Viking* may give a suggestion to some shipless sailor how to obtain a seaworthy and handy little packet at very moderate cost.

About four years ago, while roaming about in Northern Michigan, I happened to see in a post office a notice to the effect that the Coast Guard was offering for sale some excess and condemned property. Among the items listed was a 26-foot power surf boat which had been in use at one of the Coast Guard stations.

I found that the boat was of the typical double-ended Coast Guard model. She had been built by McClellan at Greenport, Long Island, in 1911, and was equipped with an Aristox 2-cylinder 2-cycle horizontal opposed motor driving twin screws. Each cylinder has two pistons driving port and starboard crankshafts, the explosion taking place between the pistons. The two crankshafts, each, of course, driving a propeller shaft, are synchronized by means of a lay shaft connected to each crankshaft through bevel gears. This lay shaft also drives the water pump and magneto. Each propeller shaft had a universal joint just outside the hull with a lifting device operated from the cockpit so that the propellers could be raised up against the hull when the boat was beached. I have described this old power plant in some detail as it is an interesting adaptation to meet a peculiar need. As far as I can determine, this design is no longer used by the Coast Guard and the Aristox engine is not now manufactured. The propeller lifting device was later removed as it did not provide adequate outboard support for the propellers.

A careful inspection of the hull failed to disclose any soft spots and, as the power plant also seemed to be in good condition, I decided to make Uncle Sam an offer. Sealed bids were to be submitted and as a flyer I put in a figure of one hundred dollars. A few days later the mail brought notification that I was the owner of a ship.

When we went over to Muskegon to take delivery we had some difficulty in starting the temperamental 2-cycle engine, but one of the boys at the Muskegon Coast Guard Station offered to sign on as engineer for the voyage to Grand Haven.

Now that we had acquired a boat the question that agitated us was what we were going to make of her. As the family are all fond of sailing, she must have a sailing rig, of course. Also, the consensus of opinion seemed to be in favor of a cabin so that she could be used for short cruises. For the remainder of that season, however, she was used as a power boat.

In the fall, when she was hauled out at the local boat yard, I took off her lines, and at odd times during the winter we sketched and planned and figured until we arrived at the solution shown in the drawing. A jib-headed ketch rig seemed best to fit the hull on account of the large number of applications for a job "before the mast." It was found necessary to omit the cabin and leave her as an open boat in order to accommodate the maximum size of crew.

To improve the appearance of our craft, give some stowage space, and increase the freeboard amidships, I decided to deck her in fore and aft, put on a covering board and run a three-inch coaming around the cockpit. The cuddies at both ends provide convenient stowage for extra gear and the forward deck gives considerable protection when jumping into a head sea.

Increased lateral plane was provided by bolting a steel fin to the bottom. The keel is broad and straight, so that it was comparatively simple to fit heavy floors inside and bolt the fin solidly into place. This fin was found to be ample, as she works to windward surprisingly well with the moderate sail plan, even in quite a lop of sea. No additional ballast was found necessary as the heavy engine is placed low in the boat and a little shifting of live ballast has been found sufficient for any summer blow.

The spars are of western fir, and beautiful sticks they are — clear, straight-grained, and without checks. They are a little heavy, but the weight is not great enough to be serious. They were turned on a lathe and are as straight and true as a die. We obtained them from a Chicago firm, and their cost was but little more than that of the rough timber.

In setting up the standing rigging, we used galvanized wire rope clevises. These are much simpler than eye splices and make a neat, strong job. I do not like mast bands as well as an eye splice at the masthead, but with a moderate spread of canvas there is probably not much danger of the mast band eyes failing. Using the clevises makes it possible to make up your standing rigging with a few hours' work, if you have no one handy to turn in

the eye splices. Just insert the end of the wire rope through the clevis, spread the wires apart in the socket, close up around the wire with a piece of putty, pour molten lead around the wires in the socket, and the job is done.

The sails are probably of heavier canvas than is necessary. With the cloths running parallel to the leech, they will stand a lot of racket, although they are probably not as efficient as the modern "cross cut" variety. There are no reef points to bother with; when it blows so hard that we cannot carry full sail it is time to turn tail and run for the nearest shelter.

Viking is undercanvased for much of the summer weather on Lake Michigan and I have looked longingly at the big hole between the mainsail and the mizzenmast wishing it might be plugged with canvas when the wind is light. Recently I sketched in a sail, which for want of a better name, I have called a "foolish sail." It is shown snapped to a wire stay running from the main masthead to a point near the mizzen gooseneck. I expect to use a light strut to keep the sail extended and sheet it from the mizzen masthead.

To meet the demand for cruising accommodations — at least to the extent of week-end trips — three pipe berths, supported by hooks over the coaming, were made to fit athwartships. A tent effect over the main boom, secured to the coaming with fasteners, provides a "cabin" that gives good protection from rain and wind. These accommodations have proved very comfortable and satisfactory for short cruises of two or three days' duration; yet with berths and tent stowed away the boat will carry the maximum load for day sailing.

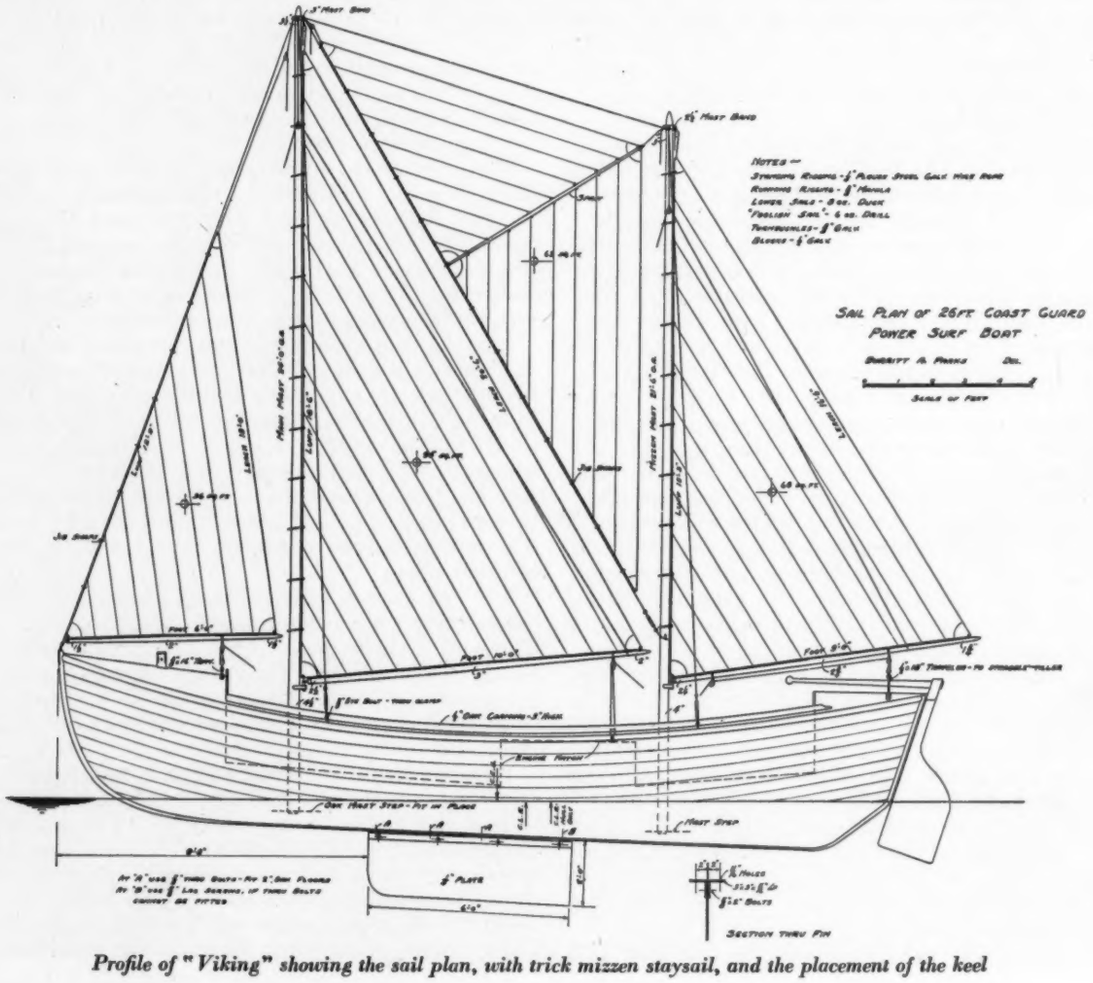
Viking has now been in commission three summers and has proved herself a very handy and seaworthy little ship. She cost, all told, for hull, spars, sails, rigging, and carpenter work on deck and coaming, about $400.

If you are looking for a little vessel in which to while away a happy hour — "asail or under power" — which will not unduly flatten your pocketbook either in initial cost or in upkeep, and which will take you in comparative safety and comfort over most summer seas, watch the wall just over the writing desk in the post office. Maybe Uncle Sam will offer another potential *Viking*.

\+ + +

"Vanitie's" Long Record

VANITIE'S two races with *Weetamoe* off Newport early in June were numbers 165 and 166 since she began her career nineteen years ago. Mr. Gerard B. Lambert, her owner, has had the record of her first ten racing years, three as a gaff-rigged sloop, three as a staysail schooner, and four as a Marconi-rigged sloop, compiled in book form for private distribution. The number of races in which *Vanitie* has engaged considerably exceeds those of any of our Cup yachts, but falls far short of *Britannia's* record, which, at the close of last season, totaled 537 contests in forty years.



Profile of "Viking" showing the sail plan, with trick mizzen staysail, and the placement of the keel

A Short Boat for Long Cruises

A Compact and Able 23-Footer Designed in Australia

By

ARTHUR C. ROBB

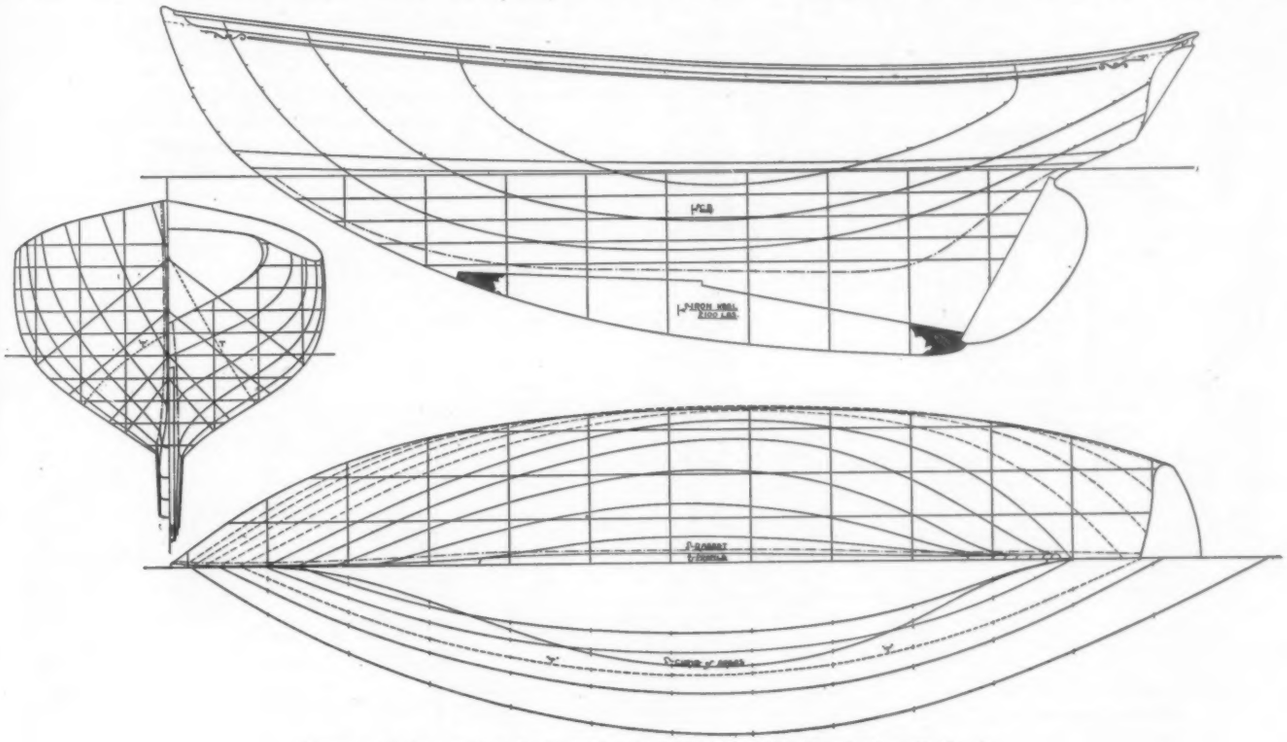
Sail plan

THIS design has been prepared primarily for the blue water sailor with thin purse, who likes to drop over the horizon now and then. With these two factors in mind, the smallest boat — this in deference to cost — which would provide reasonable accommodations for two men on long, as well as short passages, was the goal sought. She must also be capable of standing up to a severe blow when caught offshore and have space to carry a dinghy on deck. This latter feature has affected the entire design. What most small boatmen do with their tenders in a bad sea, I would like to know, for towing under such conditions is impossible.

The dimensions worked out to an overall length of 23′ 1″; l.w.l. 18′; beam, 7′; draft, 4′ 1½″. Displacement is 5789 lbs., with iron keel 2100 lbs., or 3.8 of the displacement. Sail area, 284.96 sq. ft. Frames are 2¼″ by 2¼″, while planking and deck are 1⅛″, copper fastened.

As for her lines, an attempt has been made to form a shapely hull with sharp, well-matched ends and short overhangs, yet surrounding sufficient interior space without recourse to a raised deck.

The displacement was kept light in order that a small rig may be used. The small overhangs on such a short hull give the diagonals a rather round look, but they



Lines of 23-foot cruiser designed by A. C. Robb, of Auckland, New Zealand

are at least matched, fore and aft. The freeboard is perhaps on the high side and is emphasized by a 3-inch rail. This height is compensated for by the added reserve stability, and this feature also makes for a drier deck. The area of lateral plane is sufficient, I think, to take care of the extra windage of the hull.

As will be seen, the garboard has not been turned, as this would add to the cost. While the displacement is light and the bilges round, the considerable flat of the rise of floor should provide sufficient power to carry sail. Many would prefer the stern cut off at the rudder, and this member hung outside, but the deck space provided by the small counter is essential.

On account of its rigidity, iron has been shown for the keel instead of lead; besides, it makes a better "stone crusher" in the event of grounding.

The rig is quite small, but is proportionate to the displacement, while extra area can be gained with light sails. A double headstay is a trouble-saver in this direction.

The chief virtues of the rig are that it is all inboard, and is arranged to balance under reduced sail. With one reef in, the jib would be stowed; with two down, a smaller stays'l on a boom would be used, or a reef taken in the working one. With three reefs the mainsail should suffice. The mast is as far aft as the dinghy will allow. Heaving to should be made easier on that account. The rake, I consider, will set the mainsail better and with less strain, as it is to an extent suspended from the luff. The mast is more easily supported from aft too, while the mainsail must tend to have a lifting rather than a depressing effect when the wind is anywhere aft.

The drawings show how an orthodox dinghy 7 feet long is carried upside down over the house. The transom would require the fitting of a watertight flap which would fold against the stern seat to clear the slide.

To stow the dinghy in this way, the trunk cabin had to be made narrow, with the result that sitting headroom had to be made under the side decks. Consequently, the freeboard went up a little and the transoms became too narrow to sleep on, so folding berths were used.

To turn to the deck plan, it will be seen that the cockpit is surrounded by a coaming. It is self-bailing and has a watertight hatch in the floor. There is a coaming or water-break from the house side to the rail to help keep the after deck free of water.

For those occasions when bringing in the chain by hand is too arduous, a Simpson Lawrence "Clam" windlass is placed abaft the bits.

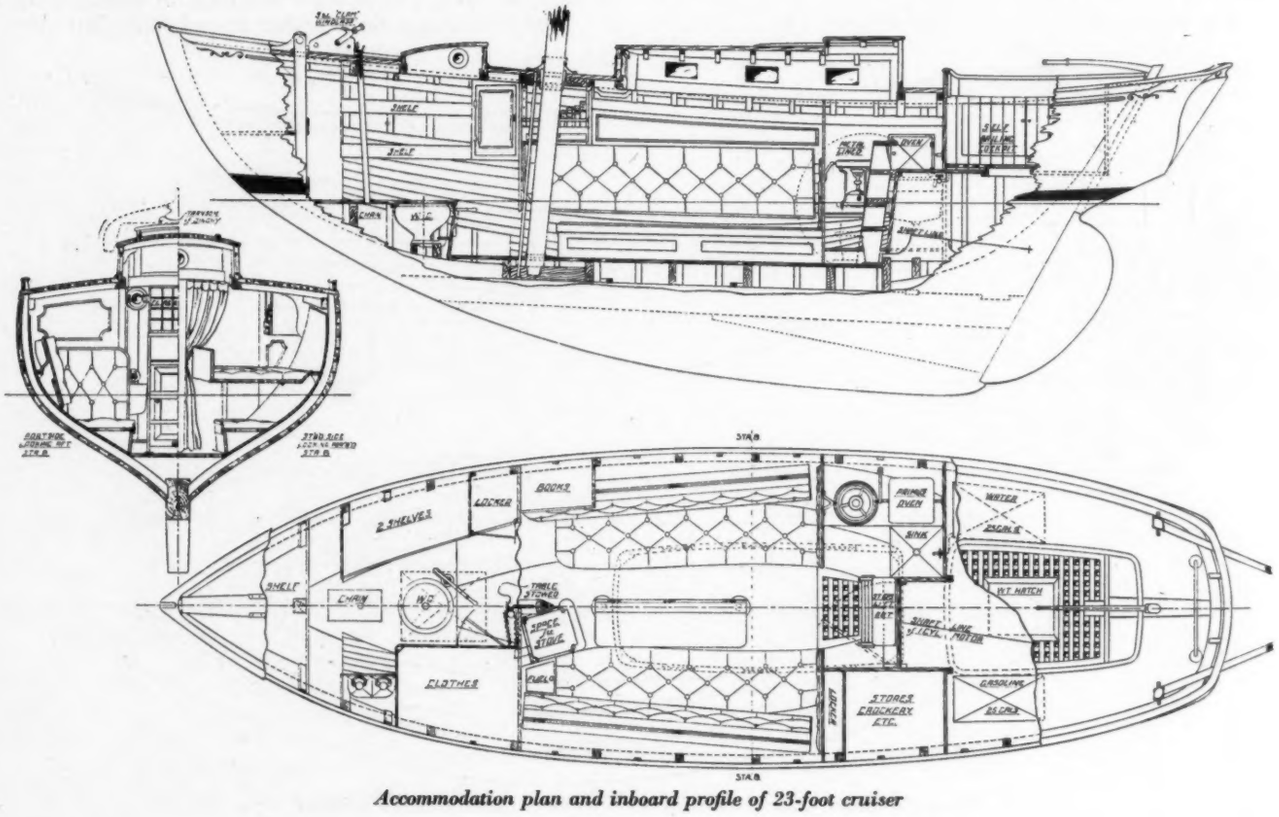
Below decks, behind a watertight bulkhead abaft the companion steps, there is space for a one-cylinder motor without reverse gear. Access is gained through a watertight door which can be opened when the steps are removed. The steps themselves are hinged at the center, and the top half folds down (as shown in the dotted lines in the plan), to form a seat at the stove.

On the port side of the companion there is space for stores and china, while on the starboard side there is the galley — aft rather than forward.

The cooking equipment consists of a primus in gimbals, with a primus oven swinging athwartships alongside. Fresh water feeds by gravity to a tap above the sink, which is at the cook's right hand.

The arrangement of the folding berths can be followed, I think, from the drawings, although the method of support is not shown on this plan. From bunk-board to ceiling there is 27 inches, which should make a real bed.

From the foregoing, you no doubt have gained the impression that the boat is full of gadgets, but I feel that in this way I have been able, to a certain extent, "to put a quart in a pint pot." In any case, I trust that some of the features of this design will serve to assist someone towards that elusive object of the yachtsman — the perfect boat.



Accommodation plan and inboard profile of 23-foot cruiser

This Matter of Horsepower

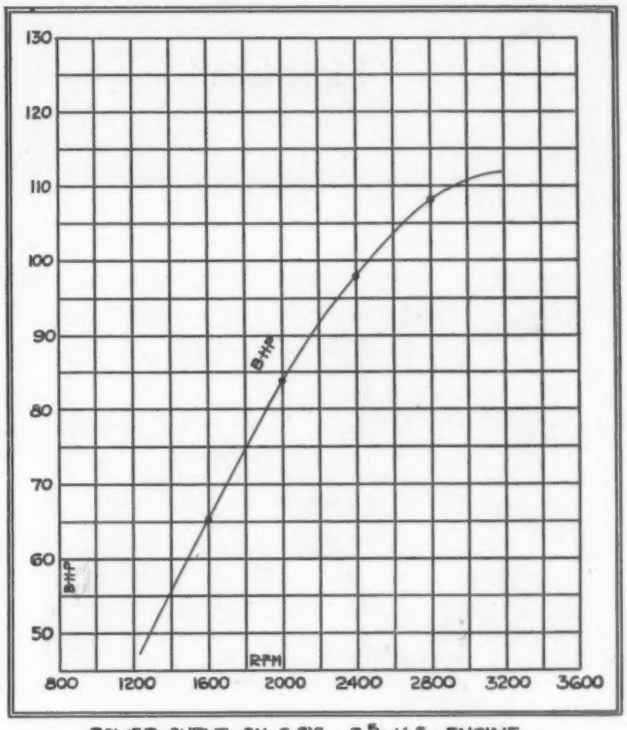
By

H. E. FROMM

E ALL seem more or less inclined to believe that things move in cycles, and this applies to matters pertaining to the boating industry as well as to depressions and prosperity booms. One of the pet subjects among boatmen which comes to the front periodically, and is discussed with vigor, is the "round bottom versus the V-bottom hull." One sees articles presenting both sides of the discussion on the relative merits of the two types, yet we keep on building both round-bilged and deadrise hulls; and the first thing we know the whole subject is suddenly dropped for something else that seems more important, or at least more interesting to a larger number of yachtsmen.

Just now we appear to be in an era which may later be termed the "horse age" in the boating industry, due to the fact that we are hearing and reading much about "little horses" and "big horses," referring to the power output of different types of marine engines. What one really wants to get at, however, is the actual power developed by marine engines and the proper application of such power so that a reasonable degree of propeller efficiency can be obtained.

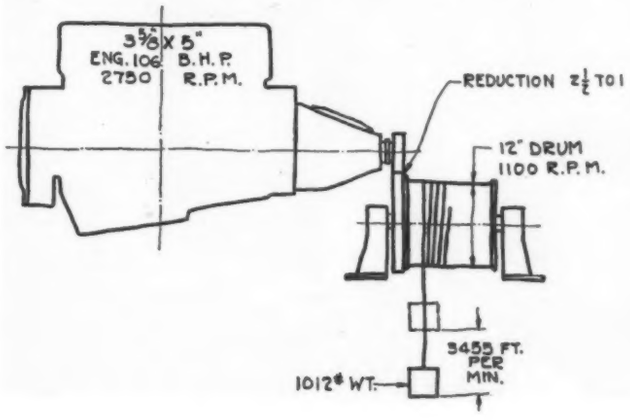
This whole discussion undoubtedly is due to the rapid growth in popularity during the past few years of the small high speed engines equipped with reduction gears to make them suitable for larger boats, such as cruisers and work boats. The characteristics of these smaller, high speed engines as contrasted with those of the larger and slower turning direct-drive engines are accountable for the impression that larger power plants give greater power, or more reserve power, than the smaller, more compact units, and sometimes lead one to believe that one engine manufacturer's horsepower is of a larger and a different unit of measurement than that of another. Such a claim is as absurd as would be a statement that the old large one-dollar bill has a greater value than the new smaller bill. Both are worth one hundred cents, just as one horsepower, a unit of measuring power, is 33,000 foot pounds. In simpler form, we may say that it takes one horsepower to lift 33,000 pounds one foot in one minute.

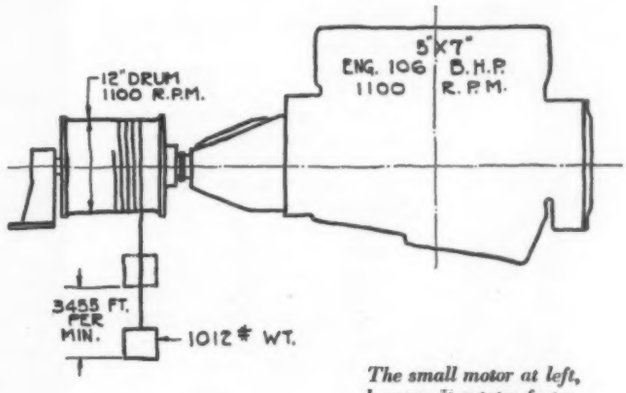


POWER CURVE ON 6 CYL. 3 5/8 X 5 - ENGINE

As weight, speed and time are factors in measuring horsepower, all or any of these may be changed. Speed, being equivalent to revolutions per minute, is the most puzzling of all factors. Let us take, for example, one-tenth of the above load, or 3,300 pounds, and increase the speed ten times, or ten feet in one minute. This will also require one horsepower — no more, no less. The accompanying diagrams will explain why a small high speed engine can develop exactly the same power as a larger slow turning engine.

(*Continued on page 86*)

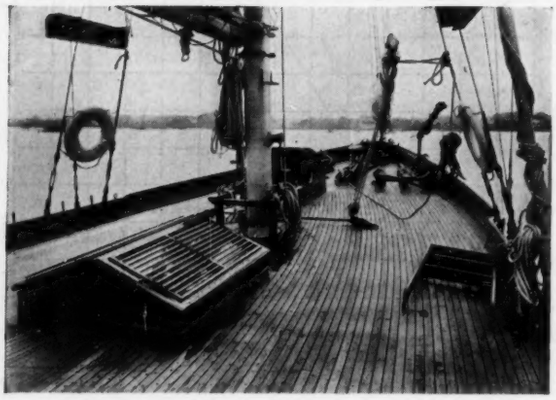




The small motor at left, because it rotates faster, does the same work as the large motor

"Tamerlane"

A New 62-Foot Motor Sailer

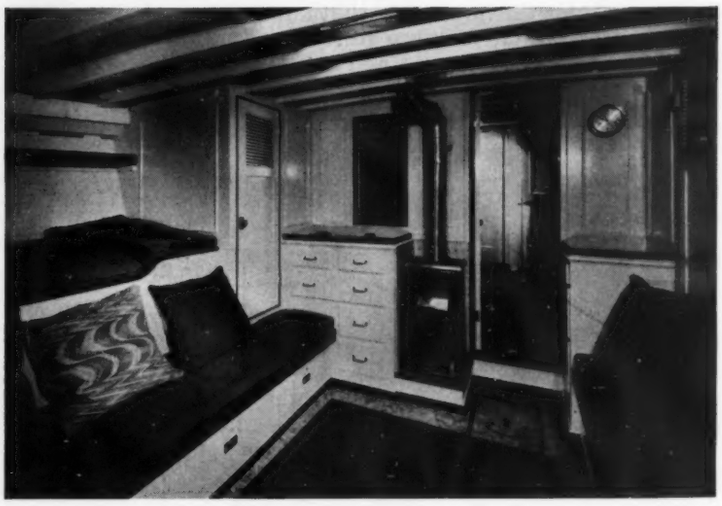


E. Levick

Rosenfeld Photos

This handsome motor sailer, owned by George B. Knowles, of South Dartmouth, Mass., was built from designs by Sparkman & Stephens and launched from the yards of George Lawley & Sons this spring. Another addition to the fast growing and popular fleet of motor sailers, she is a rather distinctive type in that she has more sail area and more of the appearance of a sailboat than most of the "fifty-fifties"

The relatively low profile and spacious flush deck lend "Tamerlane" much of the grace of a sailing yacht. The deckhouse, a feature of the motor sailer, provides spacious quarters for lounging and dining and commands an excellent outdoor view. Below decks, wide floors and full headroom under the main deck make a roomy main cabin centering around a cozy open fireplace. "Tamerlane" is powered with a Winton Diesel which drives her better than 10 m.p.h.



At last — a really small Diesel cruiser! The growing demand for a small Diesel cruiser has been met by the Wheeler Shipyard in this 34-footer, one of the company's standard hulls with duplex cabin arrangement. Power is supplied by an 85 h.p. full Diesel Buda motor. At cruising speed, 1600 r.p.m., the motor develops about 65 h.p., which gives a boat speed of 12½ miles per hour. The engine is installed beneath the cockpit, in a small space

Another new 38-foot utility power boat (left) built by the Matthews Company for William E. Levis, of Toledo. She will be used chiefly on Lake Erie. "Little B," as she is named, made a speed of 21 miles with a 200 h.p., 6-cylinder Scripps

A new Hackercraft 30-foot fast runabout was launched last month for H. J. Klingler, of Detroit. She is luxuriously appointed, with twin cockpits forward. Her speed is 41 to 42 miles per hour, the power being a 6-cylinder 225 h.p. Kermath

The Month in Yachting

New Club Enters "Hotsy Totsy" for Gold Cup

TWO events which will be of interest in racing circles have transpired in South Bend, Indiana, recently. One is the formation of the South Bend Yacht Club, and the other is the entry, by Vincent Bendix, of the speed boat *Hotsy Totsy* in the Gold Cup race, scheduled for Detroit, September 1st.

Hotsy Totsy is no stranger to the Gold Cup race, nor is Victor W. Kliesrath, well-known pilot who will be at the racer's controls when the big national event takes place in Detroit. "Vic" drove *Hotsy Totsy* to victory in the big event in 1931, at Montauk, Long Island, and again in 1930, at Red Bank, N. J. Mr. Kliesrath has a long and brilliant career of boat racing behind him. He won the President's Gold Cup Speed Boat race at Annapolis in 1930, in *Hotsy Totsy*, the International 150-mile Sweepstakes at Detroit, in Carl Fisher's boat, *Rowdy*, in 1926, and the Dodge Memorial Race at Manhasset Bay, L. I., that same year, also in *Rowdy*.

Hotsy Totsy is now in South Bend being groomed for the coming event. Power and speed have been increased, according to Mr. Bendix, and it is expected that the boat will give other Gold Cup contenders plenty of competition. *Hotsy Totsy* will fly the colors of the South Bend Yacht Club in the Detroit race.

The formation of the South Bend Yacht Club was completed only recently. Herbert L. Sharlock, an executive of the Bendix Aviation Corporation, was elected commodore, Don K. Stephenson was elected vice commodore; E. R. McEndarfer, secretary-treasurer; and R. P. Breeze, fleet captain.

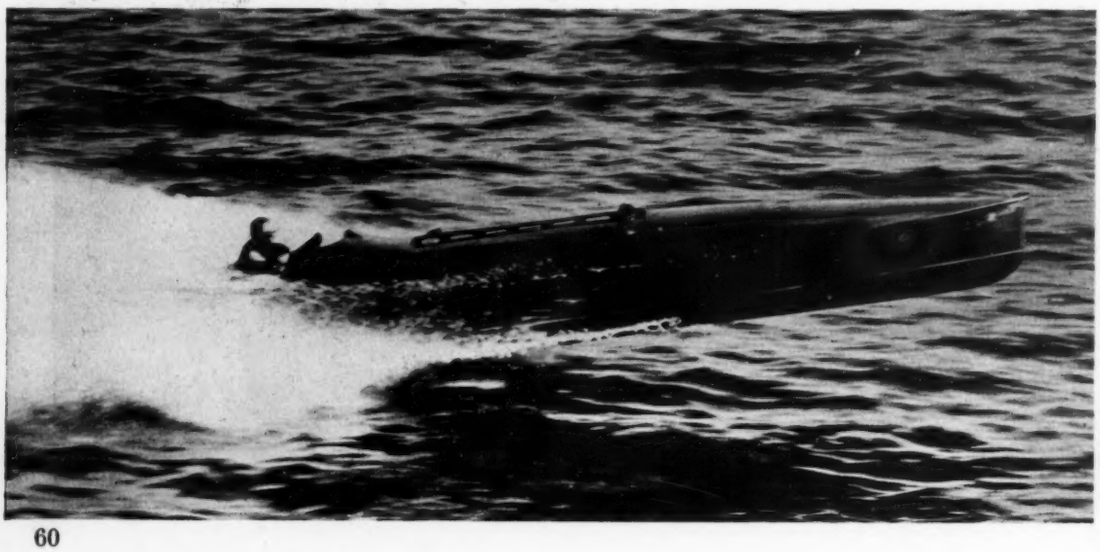
The club, in conjunction with Mr. Bendix, will not only sponsor *Hotsy Totsy* in the Detroit race and in other events, but will take over control and promotion of several speed boat races to be held in South Bend during the summer. A 3-mile straight-away on the St. Joseph River has been surveyed and cleared for these events, the first of which took place on May 28th, an outboard race.

Copyright, Kirks, Cowes

"Velsheda" under sail. This new Class J cutter by Charles E. Nicholson was beaten in her first race, sailed in a fresh breeze, by both "Britannia" and "Astra"

Yachtswomen to Form Organization

THE formation of a national association of yachtswomen, principally for the purpose of taking charge of the Woman's Championship, thereby relieving the Cohasset Yacht Club of its annual burden of furnishing boats and entertaining fifteen or twenty contestants, and the placing of the Mrs. Charles Francis Adams Cup in the hands of three women trustees, as has been done in the case of the Sears Bowl, is projected by the



"Hotsy Totsy," now owned by Vincent Bendix, has been entered in the Gold Cup Race, scheduled for September 1st, by the newly formed South Bend Yacht Club

captains of the five crews that reached the finals in the championship last year.

The Cohasset Yacht Club has agreed to the change, but with the proviso that it manage the event this year as usual, and Mrs. Adams has consented to turn her trophy over to trustees selected or suggested by the North American Yacht Racing Union.

It is expected that the new association, the first ever formed in this country, will eventually come under the fostering care of the North American Yacht Racing Union, several officials of which are assisting in drawing up a few simple by-laws and the deed of gift. The leaders in the movement, however, are determined that eliminations and championships shall hereafter be conducted without male help. They want to paddle their own canoes.

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L. Y. R. A. Regatta

DATES for the 1933 regatta of the Lake Yacht Racing Association of Lake Ontario were moved forward one day at the spring meeting of the organization held at Oswego, N. Y., on May 20th.

The regatta, which this year will be held at Fair Haven, about thirteen miles from Oswego, on the south shore, will embrace twelve classes in which an entry list of about 70 sailing craft is expected. The new dates are August 7th–10th.

According to custom, the regatta will be prefaced by the international long distance handicap cruising race for the Freeman Cup. This year the race will cover a distance of 87 nautical miles, starting from Cobourg, Ontario, crossing the lake to the port of Rochester, and then proceeding eastward to the finish line off Fair Haven.

The Oswego and Fair Haven Yacht Clubs, the latter a new organization which was voted to membership in the association, will be the host clubs and will provide servicing of yachts and entertainment for the yachtsmen during the week.

A triangular course of nine nautical miles will be laid out. The first seven classes will cover it twice each day and the last five classes but once. A large entry list is expected in the International Star Class, the Finger Lakes clubs having determined to send several boats from their fleets.

One of the important actions of the meeting was the discarding of the system used for the past several years of designating the Lipton Cup winner to represent Lake Ontario in the Richardson Cup race for the Great Lakes 20-Rater Championship. The Lipton Cup is awarded to the point winner of Section A of the "R's" at the regatta, and in this event each club may enter its whole fleet of first-class "R's." Under the new rule a special race will be held for Richardson Cup candidates, in which each club may enter only one contestant. The next race for this trophy will be held at Chicago, in 1934.

There will be no money prizes at the Fair Haven regatta, ribbons going to first, second and third places, and cups to the major champions. The George H. Gooderham Cup, held by *Conewago*, of Rochester, is for the Eight-Metre championship; the Sir Thomas Lipton Cup, held by *Shadow* of Rochester, for the "R" champion of Section A; the Freeman Cup, held by *Cayuga* of Rochester, for the long distance handicap champion; the Mabbett Cup, held by *Kathea II* of Rochester, for the "R" making the best elapsed time in the Freeman Cup race, and the Nichols Cup for veteran 20-Raters. This last trophy is held by *Grayling*.

Competing clubs will be the Royal Canadian Yacht Club, Queen City Yacht Club, and National Yacht Club, of Toronto; Rochester Yacht Club; Royal Hamilton Yacht Club; Buffalo Canoe Club; Bay of Quinte Yacht Club, of Belleville; Kingston Yacht Club; Crescent Yacht Club, of Watertown; Oswego Yacht Club; Fair Haven Yacht Club.

D. F. LANE

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Royal St. Lawrence Yacht Club Schoolboy Races

THE Royal St. Lawrence Yacht Club, situated on Lake St. Louis, near Montreal, opened its 1933 season with an event unique in the club's history — a schoolboy regatta in which crews from four schools took part.

Six boys represented each school, three sailing in each of the two races scheduled. Each boat was skippered by a competent sailor who was a member of the club and a graduate of the school he represented. This arrangement assured proper handling of the boats, and proper instruction for the boys (all novices) at the outset of their sailing careers.

To give the boys a full day's enjoyment of an unusual character, they were driven out to the yacht club in the morning of Saturday, June 3rd, and were soon out on the water in the 27-foot Marconi rigged sloops which were to be used for the races. After practicing for some time the crews were the guests of Mr. W. B. Converse at luncheon.

The races were sailed in the afternoon over the Dorval trian-

"Dorade" leaving City Island May 20th on her long voyage to Norway, where she will race during June and early July. Left, crew of "Dorade," with Roderick Stephens at the tiller. "Dorade" reached Bergen 25 days later

The Twelve-Metre "Iris," under charter this season to Drake Sparkman and Olin Stephens, has been doing well in the class

gular course. Light sails were barred. The four schools represented were: Lower Canada College, Montreal High School, Loyola College and Westmount High School.

In the first race the Lower Canada boat was first across the starting line, added to her lead on the first windward leg and kept on gaining off the wind to win handily, being followed by Montreal High, Loyola College and Westmount High.

The second race was much more interesting, being close and hard fought all the way, and the result was in doubt right up to the finish, where the Lower Canada boat just squeezed across with eleven seconds to spare over the Montreal High boat.

When en route to the Chicago exposition the famous schooner *Bluenose* stopped at Montreal for several days. The schoolboy regatta was then being organized. W. H. Smith, representing the schooner's owners, offered a cup to be known as the Bluenose Trophy for annual competition between schoolboys under the auspices of the Royal St. Lawrence Yacht Club. The offer was gratefully accepted and an interesting little ceremony took place one night in May on the deck of the *Bluenose* when, in the presence of Capt. Angus Walters, the Bluenose Trophy was presented to Hon. Commodore R. C. Stevenson. "BEAVER"

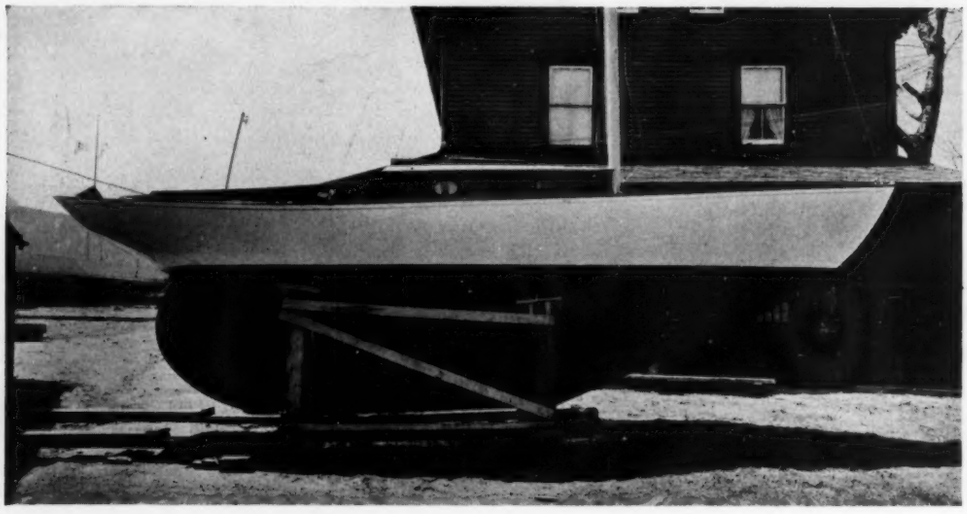
The Comet Class

A GROUP of yachtsmen who own or who are building the 16-foot one-design centerboard sloops plans of which appeared in YACHTING in March, 1932, under the title of "A Young Brother of the Star," met in New York early in May and organized the Comet Class One-Design Association. Altogether some sixty of these little boats have been built or are under construction for use this season, and it was felt that the time had arrived for standardizing the rules under which the boats should be built and raced.

A constitution and by-laws were adopted and construction specifications and equipment agreed upon. Membership in the association is nominal, being fixed at one dollar. Anyone building one of these boats and who reads this is invited to become a member and will be put in touch with the secretary by writing to the office of YACHTING, 205 East 42nd Street, New York City. Already there is a class of boats at the Stone Harbor Yacht Club, New Jersey, at City Island, on Long Island Sound, at Bay Shore, Great South Bay, at Perth Amboy, N. J., at Medford, Mass., and at Manasquan, N. J. The North Hempstead Yacht Club has appointed a committee to pass on the adoption of the boats as a one-design class.

These little boats have met with enthusiastic praise wherever they have been sailed. Designed by C. Lowndes Johnson, long a member of the Star Class, the boats, in profile, look something like a small edition of these famous racers. They are, however, only 16 feet long overall and carry about 130 square feet of sail. They can be built for a reasonable figure and upkeep is low.

In order to avoid confusion with the older and better known Star Class, they have been named Comets.



One of the new 16-foot Comet Class, racing on Great South Bay. Fleets of these little boats have been organized at Medford, Mass., at Stone Harbor, City Island, North Hempstead, Perth Amboy, and elsewhere

"Gosling," a 27-foot cruiser designed by C. D. Mower for "Yachting," and built at Kyle's yard, City Island

Mrs. Bessie Evinrude

PERHAPS no woman has contributed more to the industry in which she was active than did Mrs. Ole Evinrude, whose passing on May 13th, 1933, at the age of 47, we record with profound regret.

Mrs. Evinrude became a factor in the outboard business from its earliest inception in 1910. From the day when her husband, Ole Evinrude, first conceived the idea of replacing oars with fuel energy, she worked hand in hand with the inventor, helping ultimately to build up the industry to a position of wide prominence.

When Mr. Evinrude started his second outboard venture, the Elto, in 1921, Mrs. Evinrude again was the power and the inspiration that rapidly brought that company to a recognized position of strength and influence in its field. Not until 1929 when the Elto and Evinrude companies again united under the leadership of Ole Evinrude, did Mrs. Evinrude make the demands of business subordinate to matters more personal. But one so long accustomed to pursue the paths of industry could not easily gain complete separation from business affairs, and Mrs. Evinrude's advice and opinions were still eagerly sought by her former associates.

Mrs. Evinrude never tired of boating, and her interest in the sport was intense. Practically all of the recreation time of the Evinrude family was spent in boating and cruising on the lakes and rivers of the Mississippi Valley.

Combining very happily the exactions of a business career with those of home life, Mrs. Evinrude led an unusually full and busy life. Endowed with traits which led to happy relationships with those with whom she came in contact, Mrs. Evinrude leaves behind a far-flung circle of friends.

The late Mrs. Bessie Evinrude

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Dodge Prepares Racing Fleet

WHAT is probably the largest private fleet of racing motor boats ever seen is in preparation for this season's regattas, under the banner of Horace E. Dodge, of Detroit and Newport News, Va. Work is being rushed at Newport News on five craft with which Mr. Dodge hopes to retain the Gold Cup which he captured on Lake Montauk last September and add new records to an already imposing list.

"Gosling" under sail. She makes an attractive single-handed cruiser and proved very smart

Here are some details concerning the Dodge armada which will take to the water this month:

Delphine IV, formerly *Solar Plexus*, designed by George F. Crouch, built as a displacement boat for the 1925 Gold Cup race in which she did not finish. In 1932, with a shingled bottom, she won the Gold Cup and the President's Cup. Her 6-cylinder Packard Gold Cup motor is now being completely modernized. She will be driven by William Horn.

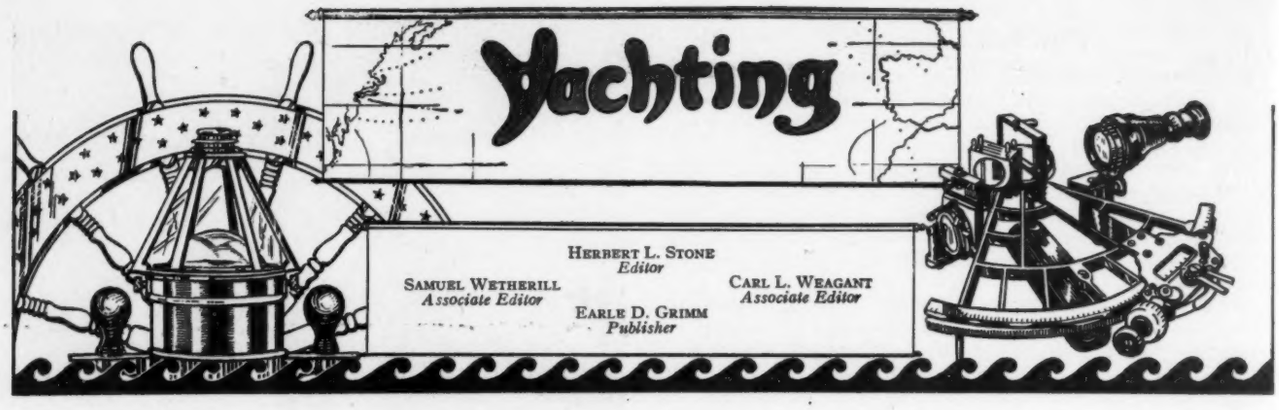
Delphine V, designed by Fred Cooper, designer of *Miss England II*, built in 1931. As *Miss Syndicate III*, she failed to finish in the Gold Cup race that year. She has been completely rebuilt and fitted with a 12-cylinder Packard Sweepstakes engine of 1250 cubic inches with a super-charger designed by Mr. Dodge, raising her power from 550 h.p. to 900 h.p. She will be used in an attempt to break the single-engined hydroplane record at the Red Bank Regatta on August 12th.

Delphine VI, a new craft designed by Fred Cooper and built in England by the Vosper Boat Works. She has very radical lines, is 27½ feet long and has the widest beam ever seen in a Gold Cup racer, 8 feet 4 inches. Fitted with the 24-cylinder Duesenberg engine from *Delphine V*, she will be driven in the Gold Cup race by Mr. Dodge. The keynote of her construction is extreme lightness. She drives through a step-down gear box by which the propeller turns more slowly than the motor.

Delphine VII, a new boat designed by Crouch, to be driven by Mrs. Raymond T. Baker, sister of Mr. Dodge, who was the American motor boat racing champion of 1927. The new craft is a hydroplane, 25 feet on the waterline and a little over 6 feet beam, low-sided, with an unusual bottom design and several radical departures in lines. She is fitted with a new Packard 6-cylinder Gold Cup engine.

Delphine VIII, the old *Impshi*, built in 1925 from designs by Crouch. She finished fourth in the 1925 and 1926 Gold Cup races. She is being fitted with a 16-cylinder Gold Cup Miller engine developing approximately 420 h.p., and is being made into a hydroplane by the application of shingles on her bottom.

Mr. Dodge has other racing craft "up his sleeve." He is the owner of *Miss Syndicate*, which won the Detroit Sweepstakes and the President's Cup in 1927, her newer sister-ship, *Sister Syn*, and *Nuisance*, which took a modest part in the Gold Cup races of 1925, 1926 and 1927. All three of these boats are Crouch-designed.



EDITORIAL

Yachts and the Sales Tax

SOME of you yachtsmen who trade in boats will have to watch your step in New York State when you indulge in your favorite pastime, or you will run afoul of the master-at-arms of the Department of Taxation and Finance. To be specific, we refer to the sales tax of one per cent to be levied on all retail sales made after May 1st, 1933.

Now a sales tax is always a bothersome thing to deal with. It is usually hidden, so one never knows just how much he is being taxed; and usually it is cumulative in that each person who handles an article adds on the tax for his own protection — or possibly profit. However, we have no intention of entering into a dissertation on the economic or ethical aspects of the matter, but merely want to point out a few of the rulings by the Legal Department of the Tax Bureau as they affect those who buy and sell boats, engines, and boat accessories.

About the only thing we can find that is not subject to the tax is a yacht charter. This is considered in the nature of a rental and, if title does not pass, no tax is assessed.

But the tax of one per cent must be paid by the purchaser, and reported by the seller, on the sale of every boat, whether new or second hand. If another boat is turned in as part of the purchase price, the tax is collected on the gross amount involved — that is on the cash and on the value of the old boat. Moreover, if the used boat is again sold, this sale is taxable also.

If the boat is sold on the instalment plan, and the contract was made prior to May 1st, 1933, and title passed before that date, the instalments due after May 1st, 1933, are *not* taxable. But if the title was not passed by that date, although the contract was made prior to it, then the entire amount is subject to the tax. This applies also to motors, or to any marine equipment.

If two yachtsmen "swap" boats with a cash exchange thrown in by one side or the other, the tax is assessed against the larger amount involved; that is, against the amount of the boat of lower value, plus the amount of the cash consideration.

If a boat builder or repair yard man buys paint, varnish or accessories for use on your yacht, he charges you, the owner, the amount of the tax. However, in this case, if the yard man or builder in buying this paint certifies that the material is for resale, he does not have to pay the tax when purchasing, and the yacht owner thus does not have a double tax passed on to him, provided the builder is honest.

And don't forget, in the press of all these taxes, there is still the annual Federal user's tax to pay on or before July 1st, on all boats 28 feet long, or over. Surely, the taxpayer's life is a merry one!

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Keep Barnegat Inlet Open

ON TOP of the closing of the Delaware and Raritan Canal, mentioned in the last issue of YACHTING, we hear that the Engineer Corps of the War Department is opposing the spending by the Federal Government of a very moderate sum to maintain Barnegat Inlet and keep open this famous and useful entrance to that big body of water back of the New Jersey beach, Barnegat Bay.

It appears that the inlet is now nearly closed as the result of last winter's gales, which piled more sand than usual across the opening that was once Banegat's only navigable outlet to the sea. If it is allowed to remain closed it will prove a serious obstacle to yacht and small commercial boat navigation. Taken in connection with the recent abandonment of the canal connecting New York Bay with the Delaware, this would force power yachts going south each winter to make the long and sometimes dangerous run offshore to Cape May and thence up the Delaware River to the Chesapeake Canal. It would also seriously affect the entrance of boats desiring to visit Barnegat Bay.

It is true that the Federal Government has spent much money in improving Manasquan Inlet and providing it with jetties, but the entrance fills up so rapidly that only vessels of the shallowest draft can navigate it, while the creeks that lead from it to the head of Barnegat Bay are also very shallow and in places narrow. It is not adequate for yachts of even moderate size, and a number of small craft have grounded at the entrance.

It seems that there is a real need for the larger and better known Barnegat Inlet, leading right into the bay proper. If the government believes that a coastwise inland waterway for small craft is of value, as is indicated by the vast sums already spent on this Atlantic Coast project, it should sense the need of keeping open the two most important links — the Delaware and Raritan Canal and the route through Barnegat Bay.

IN THE WORLD OF YACHTING

WALTER L. COURSEN

THE new Commodore of the Larchmont Yacht Club, Walter L. Coursen, is no stranger to the racing yachtsmen of Long Island Sound. For over twenty years he has sailed and raced on that body of water in boats of various types and sizes, and for much of that period he has been active in the affairs of the organization of which he is now the head.

The first boat he owned in these waters was, if memory serves, a 21-foot waterline knockabout called the "Pampero," which he raced in the Handicap Class. Then came the "Wasaka," a fast 30-foot waterline Herreshoff sloop in which he cruised and raced for several years until he bought the Lawley schooner "Vision." In "Vision" Mr. Coursen cruised along the New England coast for several years, but racing again made its appeal and in 1930 he bought the Interclub "Diane," which his son, the late Donald L. Coursen, raced successfully for several years, his father usually serving as crew.

This year the Commodore's broad pennant will be flown from the masthead of the Gardner-designed Class O sloop "Mirage," under charter for the season to the head of the Larchmont organization. If others of this class are out this year, "Mirage" will be raced when the opportunity offers.

In 1920 and '21 Walter Coursen served as Vice-Commodore of the New Rochelle Yacht Club. At the present time his other yacht club affiliation, besides Larchmont, is with the New York Yacht Club.

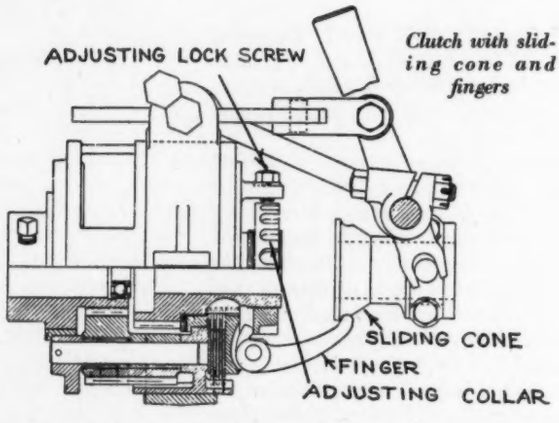
The Slipping Clutch

Something About Adjusting the Common Types

ONE of the most helpless situations in which a power boat or auxiliary owner may find himself is that of having a fine engine running perfectly but failing to turn the propeller because of a slipping clutch. The chances are that he is helpless; as a rule, few boatmen, however familiar with tuning up and running their engines, know what to do about a slipping clutch. The usual procedure is to throw a can of nails and "holler hell" into the clutch housing. However, the adjusting of a slipping clutch is a quite simple operation — if you know how — and it is the purpose of this article to describe the usual adjustment. This may not be of interest to the reader at the moment, but, if this issue is stowed away on the boat, or the page torn out and pasted in the log book, it may be worth more than its weight in gold some dark and stormy night when you are caught offshore with a live motor but a dead propeller.

Clutches have a way of letting go on just such occasions, not because of faulty design or workmanship, but as a result of ordinary wear and tear combined with the additional stress placed on them when a boat is butting into a heavy sea. The adjustment of the clutch once a year, or even less frequently, should be as much a matter of routine as is the tightening up on the stuffing box once or twice a season.

A clutch slips by virtue of the fact that the series of friction disks connected to the drive shaft are not forced tightly enough against the alternate series of disks driven by the motor. These disks are forced together by a linkage which is actuated by the clutch lever. But forcing the clutch lever farther forward, or exerting greater pressure on it, will not force the plates closer together. The clutch lever merely acts to lock toggles or fingers in a position which causes the ends of the toggles or fingers to exert pressure against the plates. If these fingers do not exert sufficient pressure in the locked position, then they must be brought closer to the disks by means of an adjustment.



Clutch with sliding cone and fingers

The mechanism of this adjustment varies in different makes of clutches, but the result of the adjustment is the same in principle. That is, the part of the clutch which supports the toggles or fingers is brought closer to the disks, or forward toward the flywheel, by turning a threaded collar, the threads of which run toward the flywheel end of the motor.

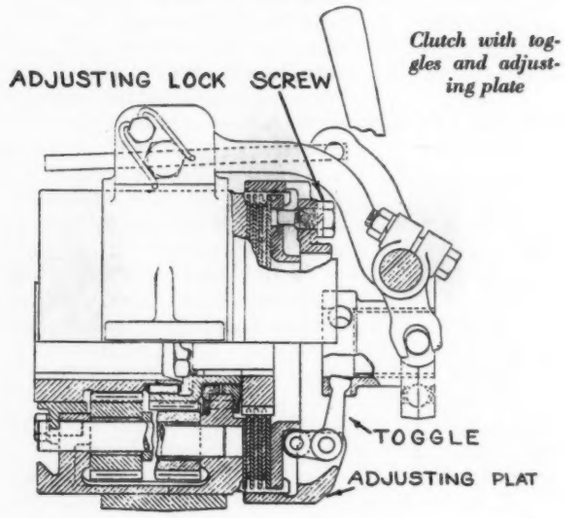
To make the adjustment, open the plate over the clutch housing — it is not necessary to take off the entire gear housing. If the clutch is of the type having a sliding cone which expands fingers until they lock in a groove at the extreme diameter of the cone, you will notice just ahead of the cone a slotted collar. By screwing up on this collar you can see that the finger ends will be carried forward and will be brought tighter against the disks which are not in sight. But, in order to turn this collar, it must first be unlocked. There may be a fixed set screw on the top side of the collar and locking into one of the slots. Back the screw out and tighten the collar two or three notches, with the clutch lever in neutral so that the fingers are riding loosely. Then put the lever in the forward position and, if the fingers grip tightly when they are spread and riding in the cone groove, the clutch should stop slipping. Try it out, and if the clutch still slips turn the notched collar a few more notches until finally the clutch holds.

In this same form of clutch with the sliding cone, the adjusting collar may be locked by a set screw or locking bar which rotates with the shaft. In this case the locking device may be on the bottom side of the collar in the position at which it happens to come to rest. So, if you see no signs of a locking screw or bar when you find the notched adjusting collar, just turn the shaft over until it comes around on the top side where you can get at it. In some clutches there may be only a piece of spring steel fitting into the notches. The spring will ride over the notches when the adjusting collar is turned with a normal amount of pressure.

In the sliding cone type of clutch be sure not to turn the adjusting collar so far up that the fingers are unable to ride all the way up the cone and into the locking groove.

The second general form of clutch linkage varies

(*Continued on page 78*)



Clutch with toggles and adjusting plate

Under the Lee of the Longboat

by Cap Stan

JUDGING from reports from the Race Committee, the Gibson Island Race is going to see a bigger fleet of starters than some of us expected a few months ago. As this is written, before the closing date for entries, 48 boats have been entered officially, and a number of others are expected any day. Doping out the results beforehand is a particularly hard job, for two reasons — there are a lot of unknown competitors among the entries, and the course is one on which breaks of the game may easily upset the most careful calculations. Nevertheless, just so a lot of readers of this page won't be disappointed, and to give them a chance to hold me up to ridicule, I'll make a few predictions.

High Tide has the legs of the fleet, and with John Lawrence in command, should be first in, and should be beaten on time by two or more boats. *Mandoo*, with John Alden at the wheel, will be among the leaders — she's fast, despite her poor showing in last year's Bermuda Race. *Rugosa* can be counted upon to be up there or thereabouts, particularly if there is much light going to windward, which there very well may be in this race. *Skylark* is fast, but I expect her to fall by the wayside. *Mistress* should show well, but will not figure when the allowances are worked out. The boat which wins will have to beat *Teragram* — she and *Rugosa* should fight it out in Class A, and the weather and breaks will be the deciding issue. Class B is hard to dope, but I'll take a chance on the new Mower-designed cutter *Jubilee*, with *Wild Goose* making it interesting for her. I have no line whatever on Classes C and D, so you can take your choice. Now read the results in your daily paper and have a good laugh at my expense.

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Although I haven't a list of entries for the Fastnet Race, I'd be willing to risk a few shillings on *Dorade* to win, with *Grenadier* and *Brilliant* scrapping it out for second place. Both the course and the British measurement rule are very much in *Dorade's* favor, and she should be a hot favorite. *Brilliant* likes heavy going, of which there is generally plenty in this contest. *Grenadier* is slippery, and excellently handled by her youthful crew. A fourth American entry, the new Makaroff ketch, is a dark horse, and should be there or thereabouts. I don't know of a British boat which has a chance, though *Patience* is big enough, and fast enough, to lead the way in, but I can't see where she can possibly save her time on the others.

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A little pamphlet entitled "Sailing Rules of the North American Yacht Racing Union Graphically Interpreted," by Fearon D. Moore, has just come to hand, and after giving it the once-over, I believe it is one of the biggest helps to the racing man which has come to light in many a day. In short, it is a graphic presentation of the many puzzling situations in which the racing skipper may suddenly find himself — the positions of the boats are clearly diagrammed, and the boat with right of way marked, while the rule bearing on the situation is quoted in the margin. A little study of this pamphlet will give even the beginner a fair idea of what to do in most situations — a much better idea than he'll get by poring over a lot of complicated printed rules, many of which concern him but little, and merely serve to be-fog the situation. The Star Class is sponsoring this little booklet, and the price is very low. Write to T. D. Parkman, Sec'y, 38 Park Row, New York.

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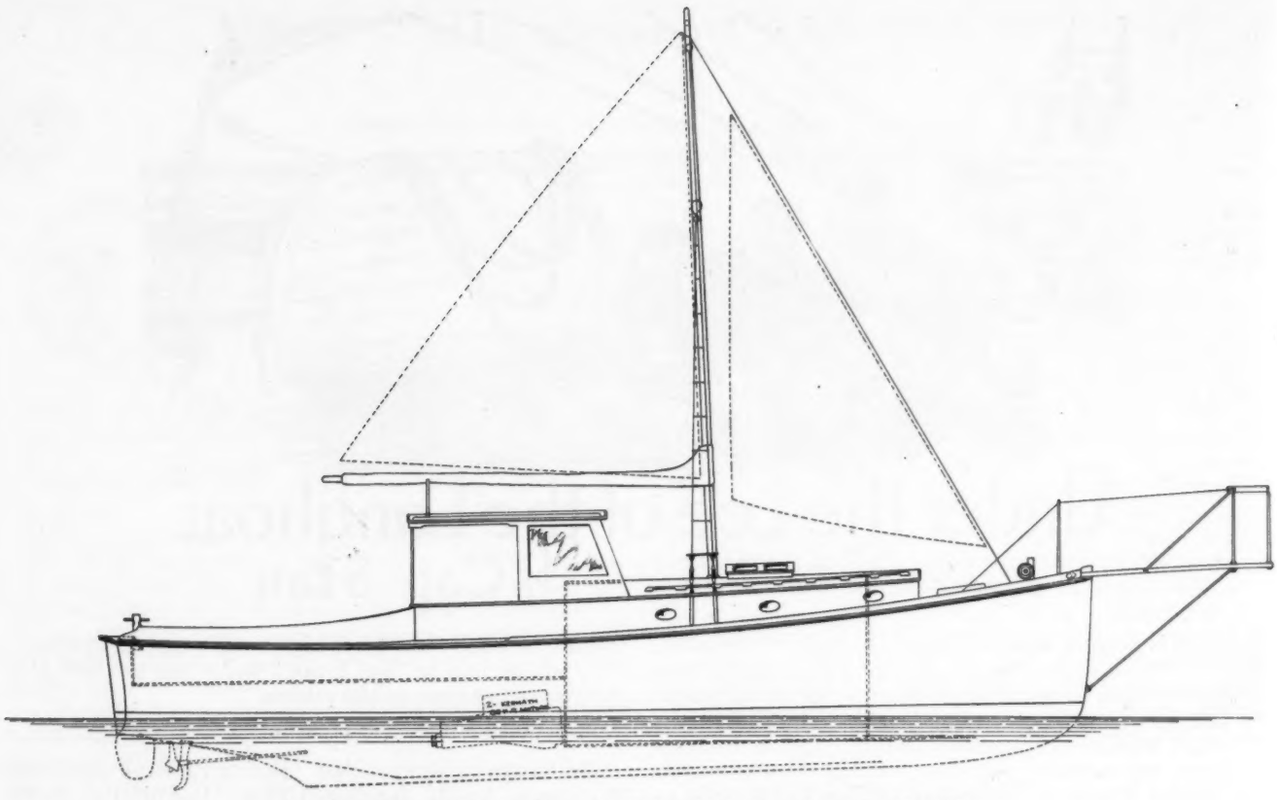
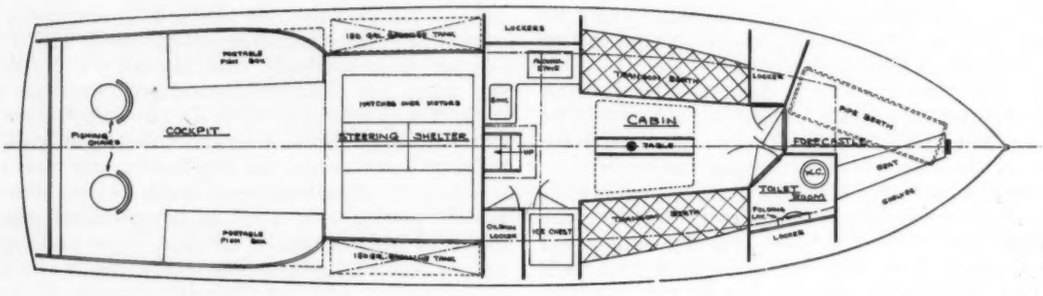
I am indebted to Mr. Thomas P. Leaman for a clipping from the *Palma Post* containing some interesting dope about Alain Gerbault. It appears that the famous French single-hander left Marseilles last February in his new double-ender, now named after himself, and sailed to Gibraltar. From Gibraltar he proceeded to Casablanca, on the African coast, and from there set sail for the Canaries. Striking the trades at this point, he set twin spinnakers for the 1100-mile run to the Cape Verdes, which he reached in eight days — mighty good going for a single-hander, and a trip which Gerbault estimated would have taken double the time without the trick spinnakers. His next port of call was apparently shrouded in great secrecy. The clipping goes on to tell about the spinnakers being Gerbault's own invention, when of course all well-informed yachtsmen know that "twin spinnakers" were invented by a Captain Waller, and described in the *Yachting Monthly* back in 1930, and again by Fred Fenger in YACHTING. Any further news about the Fearless Frog will be welcome.



Profile and accommodation plan of a 38-foot fishing launch designed by Alden



An Able 38-Foot Fishing Launch

HERE is a power boat intended chiefly for fishing purposes that is somewhat different from the general run of boats for this particular use, and which should make a distinct appeal to those who know hull form and appreciate ability and ruggedness in design. The plans are by John G. Alden, of Boston, Mass.

In preparing the design care was taken to produce a form that would make for stability and tend to reduce rolling to a minimum. The boat had to be able, and also comfortable under rough water conditions. These conditions seem to have been met without in any way spoiling the appearance of the boat, the profile being extremely handsome.

The chief dimensions as worked out in the plans come to: length overall 38 feet; extreme beam 10 feet, 8 inches; draft 2 feet 8 inches.

A small auxiliary sail plan is provided, which may be used for steadying purposes or for sailing with a fair wind, abeam or over the quarter. Two 85 horsepower 6-cylinder Kermath motors are installed under the cockpit floor, covered by hinged hatches, and these should give a speed of 16 miles per hour. A larger single motor could be used if a twin screw job was not desired, but twin propulsion makes for ease of maneuverability.

The interior arrangement shows a comfortable cabin with good living accommodations, a good sized galley, located in the after end, a toilet room, and a pipe berth forward for a paid hand, if it is desired to carry one. The cockpit is large, roomy and well-arranged for fishing. Two special swivel fishing chairs are located aft and two portable fish boxes are placed on each side of the cockpit just forward of the chairs and handy to the fisherman. A pulpit for sword fishing is attached to the stemhead.

"Manchu"—A Husky Cutter for Extended Passages

THIS husky and able looking cutter was designed by Nunes Bros., of Sausalito, California, for Patterson McCan, of San Francisco, who wanted a boat which would be capable of making extended passages through the Pacific Islands with the maximum of comfort and minimum of work in handling. In fact, the cutter, with her short rig, roller reefing mainsail, and roller furling jib, is virtually a single-hander. *Manchu* is 36′ o.a., 30′ 10″ l.w.l., 11′ 6″ beam, and 6′ 8″ draft. The total sail area is 835 sq. ft.

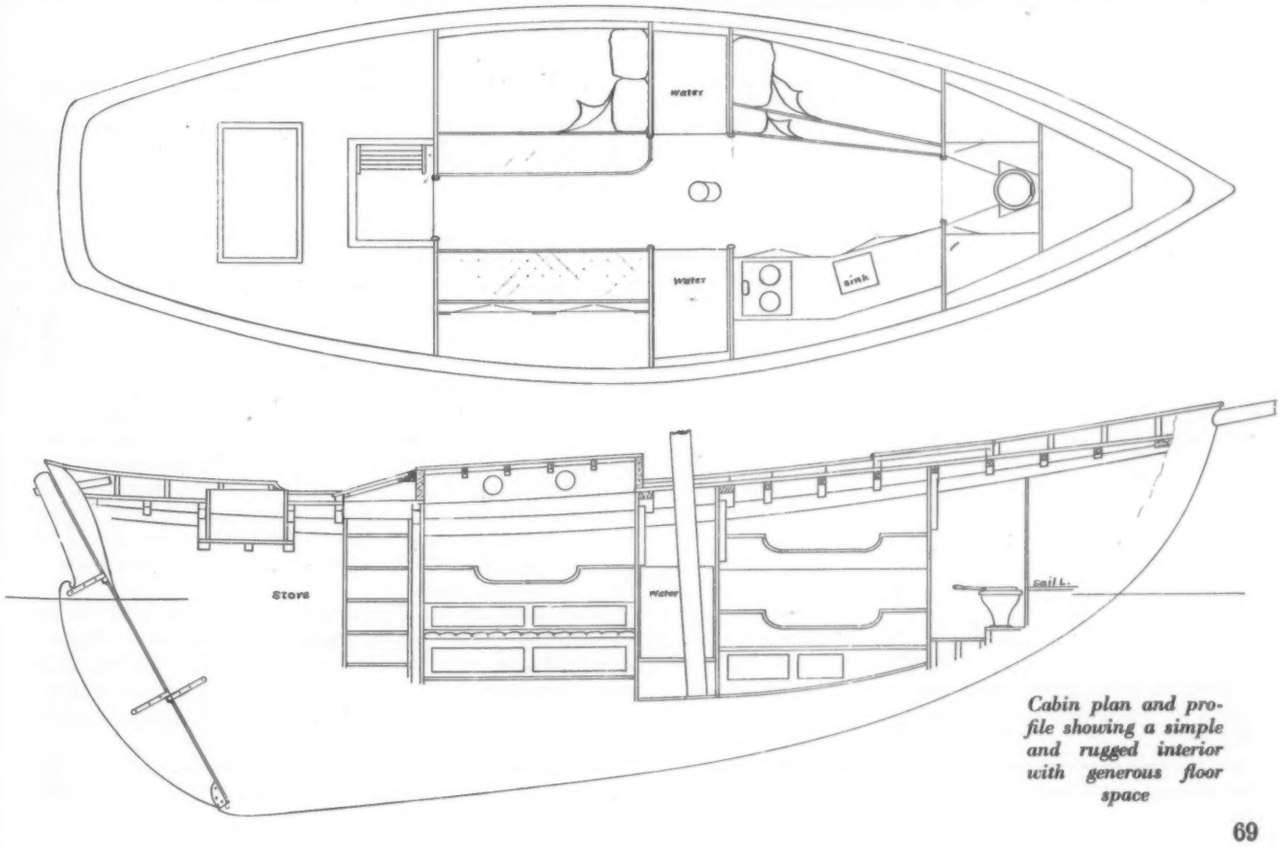
The plans show a flush deck for strength and comfort. Bulwarks are high, being 14 inches around the quarter deck and 12 inches forward. The sides of the relatively shallow cockpit or steering well rise up to a 4-inch coaming around the well. This coaming meets flush with an athwartships grating which is also raised four inches from the deck in order to insure the helmsman a dry seat (comparatively) in heavy weather. The steering well is designed to serve as a bath tub in port, and is supplied with hot water from the galley stove. A tent can be rigged over the boom to provide privacy.

The side companionway is protected by a heavy fisherman hatch and leads below to a vestibule with grated floor which serves to drain spray and water from wet oilskins. Abaft the companionway is a large storage hold and space for an engine, which may be installed later. The spacious main cabin is separated from the forward cabin and galley by double bulkheads between which is space for water tanks and lockers. These double bulkheads also give added cross-sectional strength at the mast.

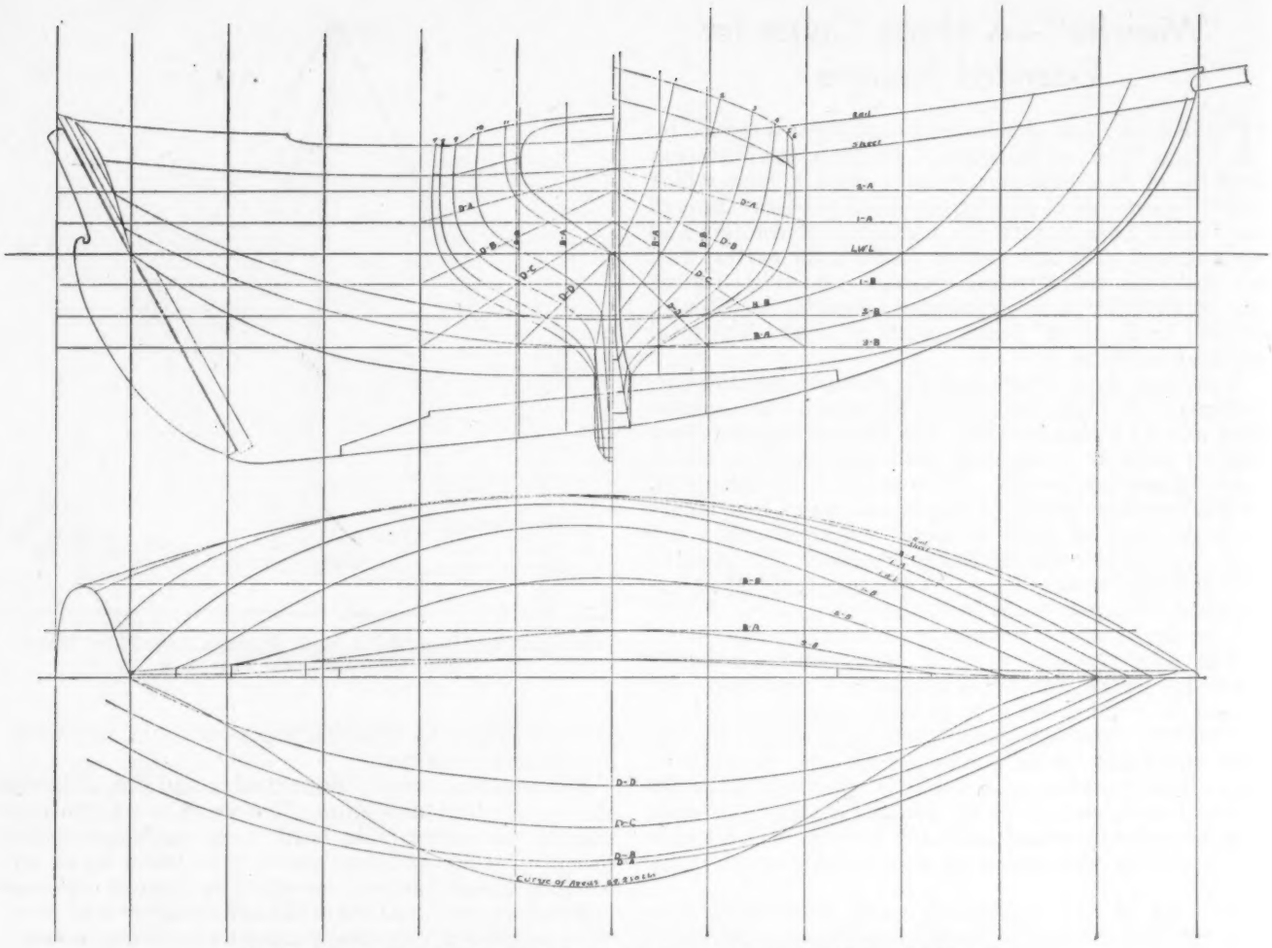
The rig is very conservative and was designed so that the cutter could be readily hove-to or sailed under reduced canvas by lowering jib and mainsail and working under the staysail.

Sail plan of "Manchu," a husky 36-footer designed by Nunes Bros. and built on the West Coast

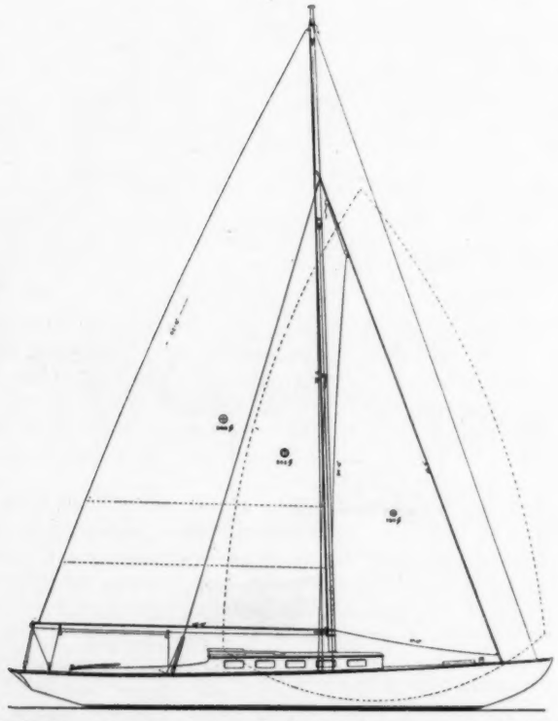
Her lines show a fairly fine entrance and run, although she is very full amidships. Freeboard is on the high side but her deep profile, hard bilges, and ample ballast should give her sufficient stability to stand up in any weather. Speed has been sacrificed to comfort and ease of handling, and in a boat of her size the latter is of greater importance if extended passages are contemplated.



Cabin plan and profile showing a simple and rugged interior with generous floor space



Lines and body plan of "Manchu" showing moderately fine ends with broad mid-sections



Sail plan of racing cruiser designed by Leonard M. Richards

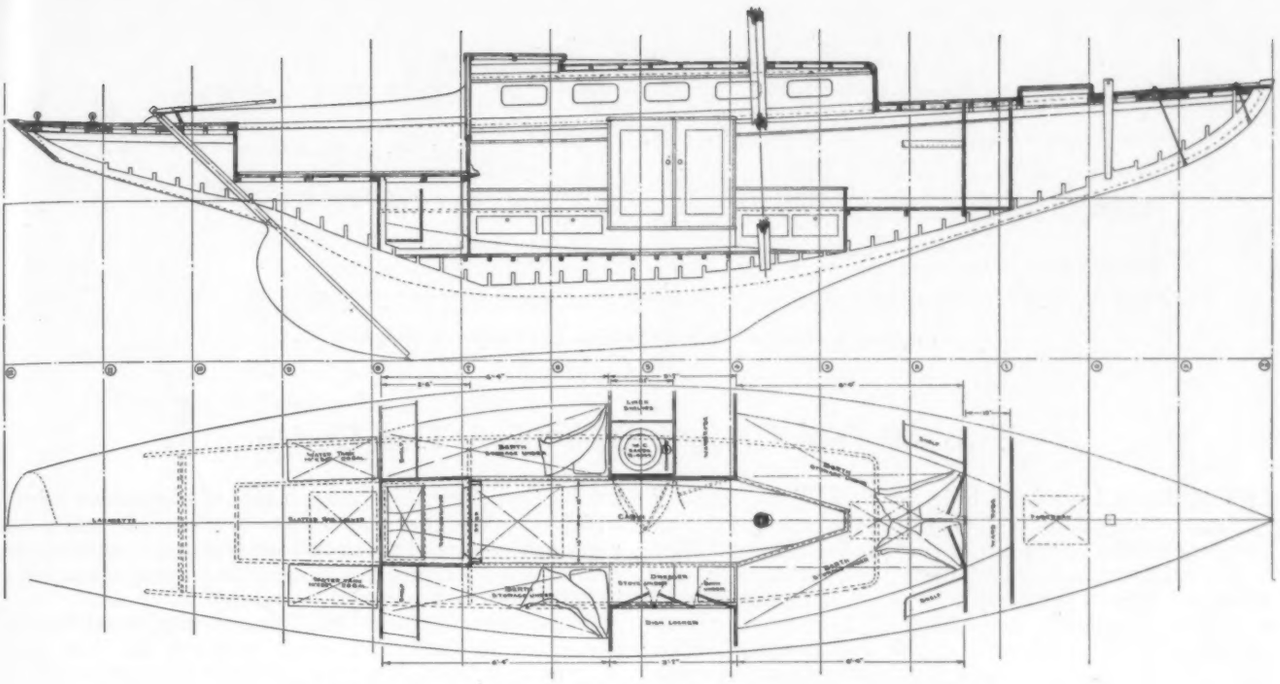
A Trim One-Design Racing Cruiser

THERE has been considerable interest of late in boats for one-design racing classes which, while essentially racing craft, provide ample accommodation for week-end and vacation cruises. The plans on this and the next page show a boat which was designed to meet these requirements by Leonard M. Richards, naval architect of Philadelphia. The principal dimensions are: l.o.a., 35′ 4″; l.w.l., 25′; beam, 7′ 8″; and draft, 4′ 6″. Total sail area is 502 sq. ft., displacement is 8900 pounds, and the ballast is 4600 pounds in a lead keel.

As low initial and operating cost are a necessity in these times, the designer has kept the boat as simple as possible, the construction being at the same time consistent with good practice. Although of moderately light construction, no attempt has been made to cut weights to the bone in order to gain speed. In every detail ruggedness, coupled with simple construction, has been the first consideration.

The lines are well proportioned and should be conducive to good speed under varying conditions of weather and on all points of sailing. The moderate sail plan is in keeping with the moderate displacement and, with this amount of sail and her firm bilges, she should stand up to it nicely.

Accommodations consist of four comfortable transom berths, two forward and two aft, a toilet and galley

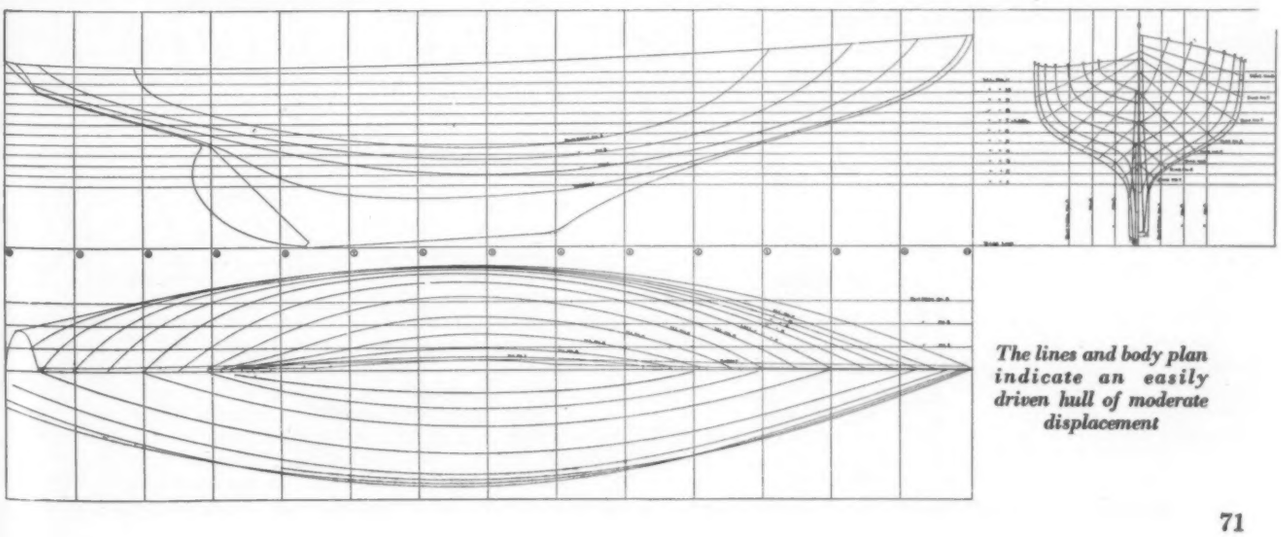


Interior plan and profile of racing cruiser showing accommodations for four

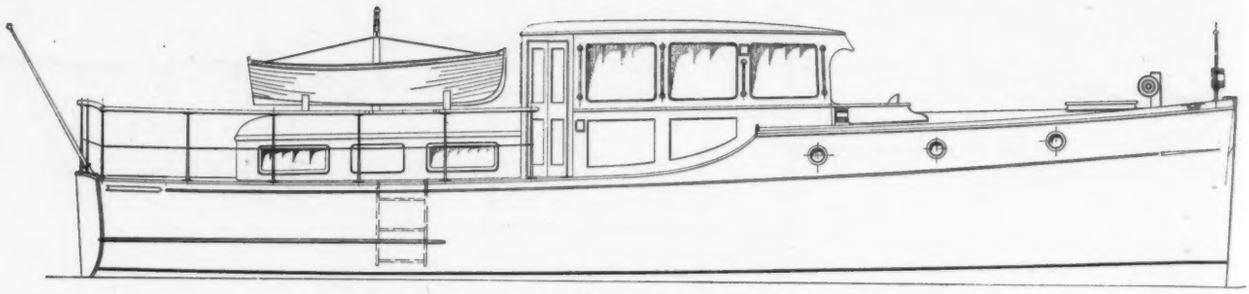
amidships which serve to divide the sleeping quarters into two compartments, ample locker space, and a large icebox under the cockpit floor. Headroom of five feet runs the full length of the trunk. A sizable forepeak, separated from the forward cabin by a bulkhead, provides ample space for stowing gear and sails. Two 20-gallon water tanks located aft under the deck should be ample for all ordinary cruising. Considering her narrow hull and relatively short waterline length, the accommodations below decks are more than one would expect, this result being due largely to the simplicity and efficiency of the layout.

Should it be considered desirable to equip this class with auxiliary power, a small 2- or 4-cylinder motor can be installed under the cockpit in the space occupied by the icebox shown in the plans. In this event the icebox could be installed in the spacious port locker, designated on the plans as a wardrobe. An auxiliary should prove popular as it would be invaluable as a means of assuring arrival at the starting line in time for races when the wind failed, and for cruising. The idea of having an auxiliary racing class has come in for considerable favorable discussion of late, and this boat seems to fill that bill admirably. Of course, the additional weight of the engine and tanks, plus the interference from a propeller, would cut down the speed somewhat, but, even so, she appears fast enough to make a popular racing class, and, as long as all boats in the class were equipped with auxiliary power a slight reduction in speed should not detract from the interest.

For short cruises on inland or coastal waters she has much to recommend her. With a good turn of speed, this boat would make the best of light summer breezes while her heavier — although, perhaps, more commodious — cruising sisters lagged far behind. She should be easy to handle and could be sailed with ease by two persons, or even one, if the owner cared for single handing it or was left short-handed.



The lines and body plan indicate an easily driven hull of moderate displacement



Profile of a 40-foot power cruiser designed by Chester A. Nedwidek

Two 40-Foot Cruisers Built from This Design

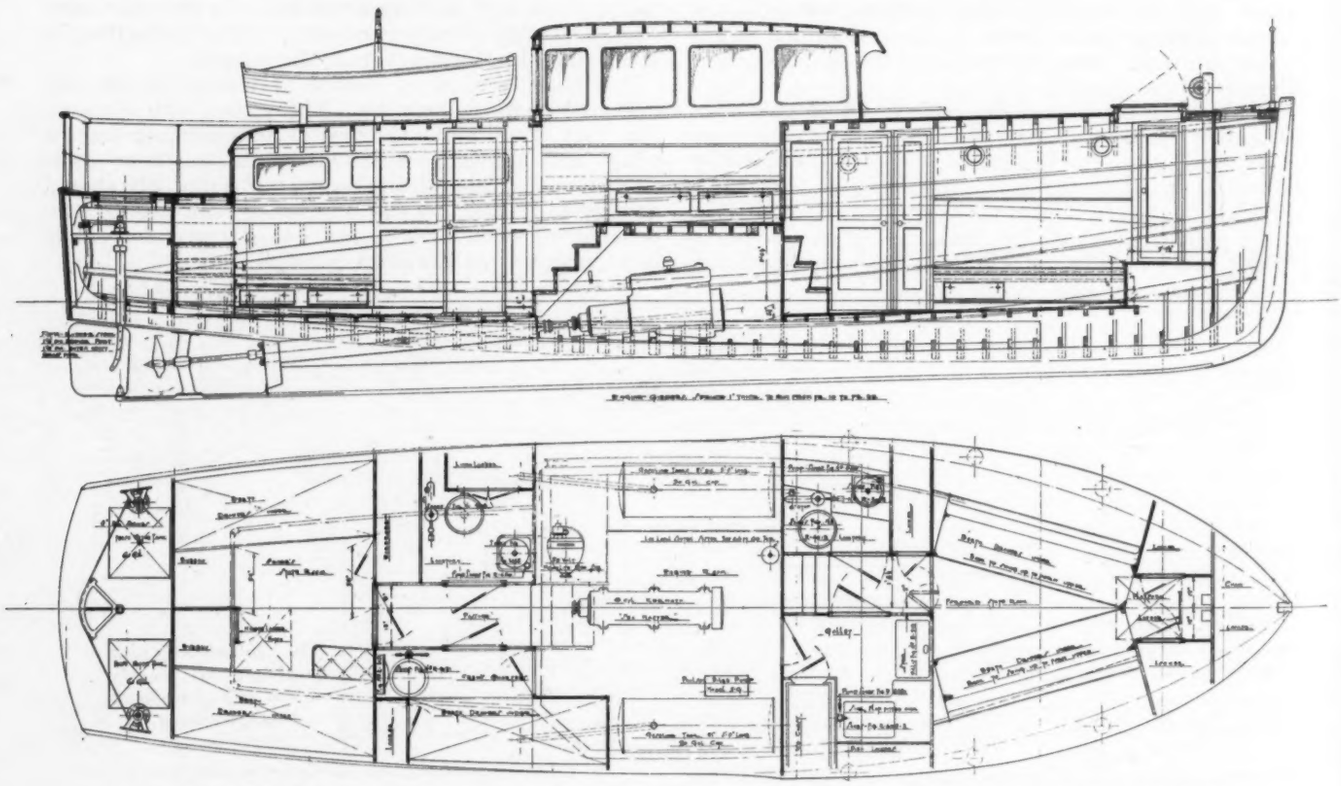
TWO boats have been built by F. S. Nock, Inc., of East Greenwich, R. I. from the accompanying design from the board of Chester A. Nedwidek, of New York. Both hulls were planked with mahogany and finished bright. One boat is powered with a 150 h.p., 6-cylinder Kermath, capable of giving speeds up to 14 m.p.h.; the other with an 86 h.p. Kermath with reduction drive which gives a speed of 12 m.p.h. One boat is owned by Herbert Pettee, of Providence, and the other by Howard E. Bishop, of New York.

The raised deck forward, bridge deckhouse amidships, and after trunk cabin are laid out in good proportion and give the profile a trim and seaworthy appearance. Ample lounging space is provided outdoors by the spacious after deck, and indoors by the roomy and well lighted deckhouse which also serves as a pilothouse.

Conventionally and conveniently located under the floor of the deckhouse is the engine room. Fuel tanks are located accessibly on each side of the engine room, which the designer has taken considerable pains to ventilate adequately. For further protection against the fire hazard, a Lux fire extinguishing system has been installed in the engine compartment.

The accommodation plan shows a good-sized double stateroom forward from which access to the fore deck may be had through a forward hatchway fitted with a ladder. Abaft this cabin and to starboard is a large galley with ample cooking facilities and plenty of floor space. The toilet room opposite is conveniently located to the forward cabin and bridge deck as well. Abaft the deckhouse is a small stateroom and toilet for the crew and a large owner's toilet room and double stateroom with spacious berths, dressers and lockers.

The slightly curved deckhouse top and the well-rounded after end of the trunk cabin add much to her trim and modern appearance.



Interior plan and profile showing accommodation for four people in two cabins and a small stateroom for one paid hand

Books for the Yachtsman

E. Levick

Real sailing. The Class F "Pleione," off Sakonnet, R. I., dusting off a few whitecaps on the New York Yacht Club Cruise

The Sailing Rules in Yacht Racing

By George E. Hills

(Charles Scribner's Sons. 1933. $2.50)

A NEW book that will fill a need that the racing yachtsman has felt for some years has just come from the press in time to be of use during the present season of competitive racing. This volume, *The Sailing Rules in Yacht Racing*, by George E. Hills, is an interpretation of the complicated and sometimes ambiguous rules under which yachts are raced. The interpretations are based on protest decisions by the governing yacht racing bodies in both the United States and Great Britain. They are thus the considered judgment of the highest tribunals. As such, they are of great value to the man who wants to play the game correctly.

With the adoption of our present racing rules some three or four years ago, we at last achieved uniformity with the sailing and right of way rules of the other yachting countries. But such change as this uniformity made in our old racing rules was a matter of some confusion to the skipper who was not familiar with the international rules and who was not always aware of the interpretations and protest decisions made under them by the yacht racing bodies of the various countries. And where certain rules conflict, or where the intent is sometimes ambiguous, such knowledge is important to a thorough understanding of them. By supplying this information Mr. Hills has done much to clarify the sailing rules for the American yachtsman.

The book is divided into three parts: *viz.*, Management of Races; the Sailing Rules; and Protests and Disqualifications. In discussing the various sailing rules involving right of way, Mr. Hills not only explains each rule and its intent, but quotes liberally for his interpretation from the decisions of the New York Yacht Club, the North American Yacht Racing Union, and the British Yacht Racing Association affecting the rule under discussion. The book not only makes the rules clear through numerous diagrams, but is readable as well.

The author has been chairman of the race committee of a Massachusetts Bay Yacht Club for several years, and for the last two years one of the judges of the National Junior Championship races for the Sears Cup. For the novice, the book will prove invaluable. For the more experienced, it may well become an accepted handbook on our racing rules.

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Yachts Under Sail

By Alfred F. Loomis and Gordon C. Aymar

(William Morrow and Co., New York, $3.00)

IN RECOMMENDING this book to yachtsmen the world over we do so for two reasons. First, because of its artistic merit and the appeal it will make to those who have an eye for a boat; and, second, by reason of the fact that here will be found a lasting picture of American yachting in all its phases, as it is carried on today. On either count the book is a notable contribution to the current history of the sport.

It will be gathered from the above that the book is a collection of pictures of present day yachts in action. It is, perhaps, the most beautiful book on the sport ever published in America. From many thousands of photographs, found in both professional and private collections, Alfred Loomis has selected ninety-two which represent the sport most completely, and these and the captions tell the whole story of modern yachting.

Beautifully reproduced by the offset lithographic process, the pictures show the various boats, which represent nearly all of the racing and cruising classes and types, under every circumstance that the camera has ever caught. The racing yachtsman will find satisfaction in the pictures of the tense moments experienced so often in a race but so rarely caught by the camera, while the cruising man will find plenty of blue water craft and deep sea action sailing to call up memories of long days at sea, driving hard or becalmed. Mr. Aymar, in grouping and laying out the pictures, has done his job well.

In the foreword "Alf" Loomis explains the reason for the selection and grouping of the pictures. In his inimitable style he tells "what's what" in American yachting. Can one ask anything more?

All of this may sound as if this reviewer is partial to Mr. Loomis and his book. As far as this particular work goes, I confess to the indictment. H. L. S.

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Early Steamships

By Felix Riesenberg

(The Studio Publications, Inc., New York, $2.00)

THAT phase of the history of shipping which deals with the transition from sail to steam, as it unfolded, is the subject of the fourth volume of a series of reproductions of the famous Currier & Ives prints.

Captain Felix Riesenberg's concise summary of the main events of that stirring period, which culminated in the development of those precursors of our ocean greyhounds, the steamships *Great Western* and *Great Eastern*, is followed by eight plates, reproduced in color. The value of this publication is further enhanced by the inclusion of a list of all the known steamship prints published by Currier & Ives.

The fleet of Richardson cruisers arriving in New York at the end of their five-day "sailaway" cruise from North Tonawanda, N. Y.

Of Interest to the Skipper

Fourth Annual Richardson Sailaway Cruise

THURSDAY, May 25th, was a busy day at the Richardson Boat Company, located at North Tonawanda, N. Y., for on that day six new Richardson boats slid down the ways to be tested and tuned up for the fourth annual "sailaway" cruise through the Barge Canal and down the Hudson River to New York. The fleet consisted of a Richardson Little Giant, a Baby Richardson, two Double Cabin Cruisabouts, a Single Cabin Cruisabout, and a Richardson Junior which was specially laid out and powered with a large motor for fishing.

On Sunday morning, May 28th, the fleet and a crew of 24, on six boats, got underway for New York. Cruising in formation, the fleet continued through the canal, making the Rochester terminal for the first night's stopover. The second day's run took the fleet as far as the Lyons terminal, and on the third day they crossed Oneida and Cross Lakes, stopping at Rome for the night. By Wednesday night the fleet reached Schenectady, and next day a short stop was made at Albany in the afternoon before continuing on to Kingston for the night.

At three in the afternoon of Friday, June 2nd, the fleet, after five busy days of running, reached Duffy's Landing, New York City, where the boats disbanded. Like all former cruises this one proved a successful and enjoyable means of delivering boats to New York waters.

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Dulux

Dulux is a Dupont product which this company has developed in their laboratories during the course of the last few years. Beside undergoing long and thorough tests in the Dupont research laboratories, Dulux has been extensively used in actual service and is now offered to yachtsmen as a composition of unusual durability.

One of the secrets of the durability of this new product is the use of a new vehicle. Used clear, that is without coloring or pigment, it is a splendid varnish. Combined with pigments of any standard color and white or black, it becomes an excellent marine paint. Dulux can be supplied in all colors for every service and may be obtained at stores handling Dupont compositions.

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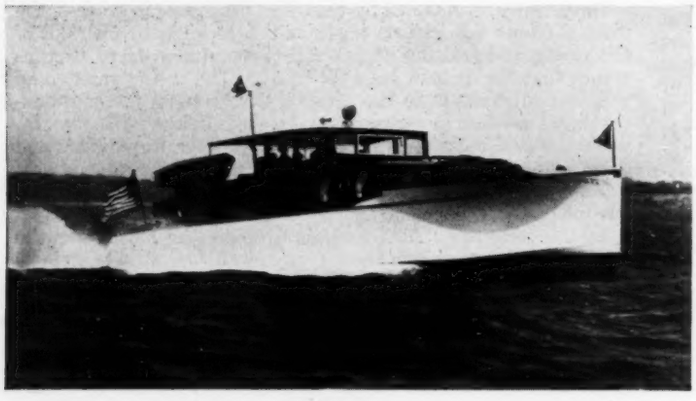
Wilcox, Crittenden Special Catalog

Wilcox, Crittenden & Co., of Middletown, Conn., manufacturers of marine hardware, recently issued a new catalog covering those items of marine hardware which are particularly adaptable for use on outboards, small motor boats, and sail boats. This catalog has been published especially for dealers, who can secure copies by writing to the above address.

Of special interest in the catalog are the new dry cell bow and stern lights, which are of particular usefulness on small boats which do not have electric generators but are required to display lights.



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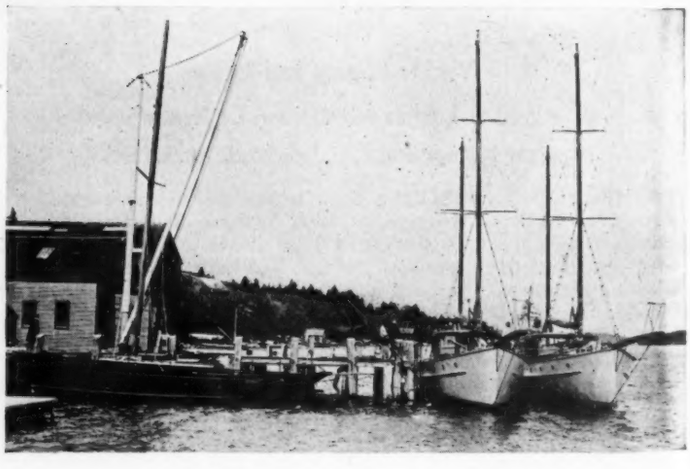
"Bambalina, III," a Luders commuter powered with twin 200 h.p. Kermaths



Two new Hand 63-foot motor sailers both powered with 175 h.p. Hall-Scott motors, and the new cutter "Jubilee" after launching from Hodgdon's

Skaneateles Boat and Canoe Co. Has Busy Season

The Skaneateles Boat and Canoe Company is running full time to keep up with orders for their well-known International 14-Foot Sailing Dinghy.

Since the boat was exhibited at the Motor Boat Show this company has not been able to accumulate a stock of more than a very few boats ahead of contracts. In addition to a large number of orders from all parts of the country for single boats, and additions to existing racing fleets, orders for complete fleets have been received from Lake George, N. Y., and from Cooperstown, on Otsego Lake.

The 14-foot dinghy is a beautiful little craft, built and rigged in accordance with the best practice. The trim and deck work are of genuine Honduras mahogany; all fastenings are of copper and brass and the fittings are of bronze of special design. The mast is hollow and the sails are of Wamsutta Duck, by Cousens & Pratt. The workmanship is, of course, of the same high quality maintained by this company for the past forty years. The rig has been worked out to an unusual degree of simplicity which allows the boat to be completely dismantled or rigged in about five minutes.

In addition to their work on the International Dinghy, the Skaneateles Company is building its regular stock line of small boats which includes outboard motor boats designed for hunting, fishing, and for summer cottage use, combination rowing, sailing and outboard motor boats, yacht tenders, and five models of St. Lawrence skiffs. A number of 19-foot centerboard sloops, from designs by Charles D. Mower, are also being built.

Fourteen-foot dinghies and skiffs under construction in the shops of the Skaneateles Boat and Canoe Co., Skaneateles, N. Y.

The B & E Porto Boat can be assembled in two minutes

A Practical Portable Boat

FOR years yachtsmen have been waiting for a practical portable boat, one which could be folded up and stowed aboard the smallest of cruisers for a dinghy. Such a boat has been produced by the Bair & Edgerton Boat Works, Glen Cove, N. Y., and carries the trade name of B & E Porto Boat.

The boat is made of mahogany plywood which makes for unusually strong construction and durability. There are no seams to leak or caulk. No tools are needed to assemble the boat, which can be put together in two minutes. It can be taken down as quickly and requires but a small space, five feet in length, for stowing. In fact, when the boat is stowed it can be handled like a piece of luggage.

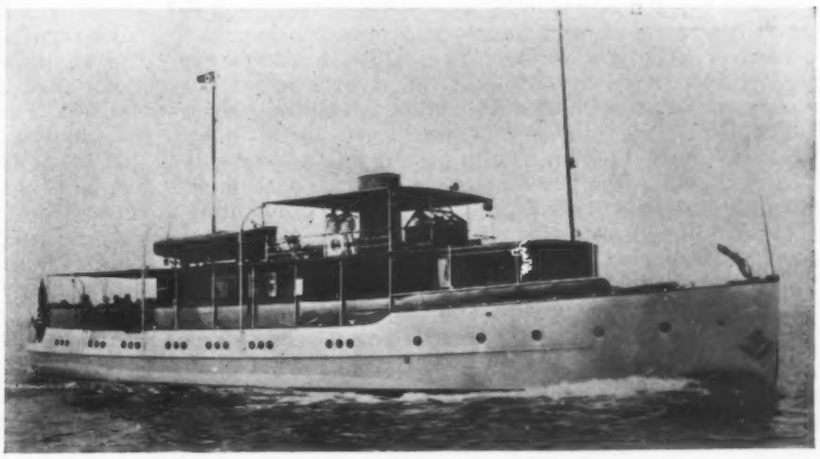
The B & E Porto Boat is 10 feet long, weighs 75 pounds, can carry up to five adults, and is built to carry an outboard engine. These boats are unusually well designed and have been given the maximum of stability to insure against capsizals. However, in the event of capsizing, the B & E Porto boat has sufficient buoyancy to remain afloat and at the same time support the occupants in the water. Because of the unusually light construction these boats are remarkably easy to row and tow.

The Nautigraph

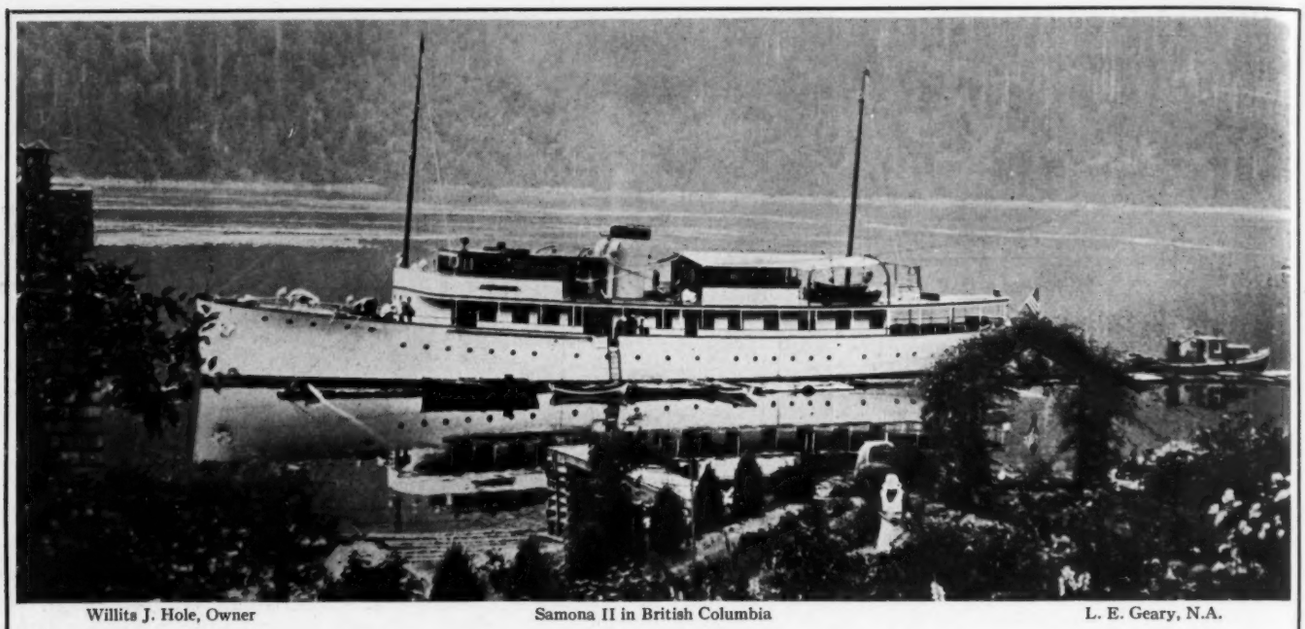
The Nautigraph, designed by H. W. Slauson, is essentially a calculating device in the form of a pocket size circular slide rule which can be employed in numerous ways to determine how to get the most out of your boat and engine.

By simply carrying out the directions in a booklet which accompanies this new instrument, one can readily and quickly convert minutes per mile into miles per hour, translate miles per hour into knots, and vice versa. It will show you in what time you must cover a measured mile in order to travel any given number of miles per hour. It will tell what the propeller slip is (from 0 to 50) for any wheel pitch between 10 and 30, turning at any number of revolutions from 1000 to 4000. With any desired percentage of propeller slip, it will show the wheel pitch that you need at any given number of revolutions. For any desired percentage of slip, with a given number of revolutions, it will show the required wheel pitch. And it will show various combinations of any of the above results, such as the time required to travel a statute or nautical mile at a given percentage of wheel slip, wheel pitch, and number of engine revolutions per minute.

Nautigraphs and further information about them may be obtained by writing to H. W. Slauson, General Motors Building, New York.



"Renmar," a 100-footer owned by Chas. Bidwill, was designed by Cox & Stevens. Hill-Diesels driving G. E. generators furnish her with electricity



Willits J. Hole, Owner — Samona II in British Columbia — L. E. Geary, N.A.

EVERY STEEL YACHT OVER 60 FEET BUILT ON
THE PACIFIC COAST IN THE LAST 15 YEARS IS
A PRODUCT OF OUR PLANT

CRAIG SHIPBUILDING COMPANY

Long Beach, California

North in the Humbolt

(*Continued from page 29*)

close in on the north shore of South Island. Just north of San Gallan Isle, and not far west-southwest of Callao, famed for great deposits of guano, the Chincha Islands loom like snow-capped mountains from the brown waters of the sea. Mountains of white guano are everywhere. On North Island there was, during the 19th century, a town of one thousand inhabitants, which now is as completely blotted out as Nineveh. Neither wood, nor metal, nor stone remain, the only traces of habitation being the corpses of coolies, mummified by the guano in which they are buried, rolled up in blankets and with the usual coin beneath the tongue.

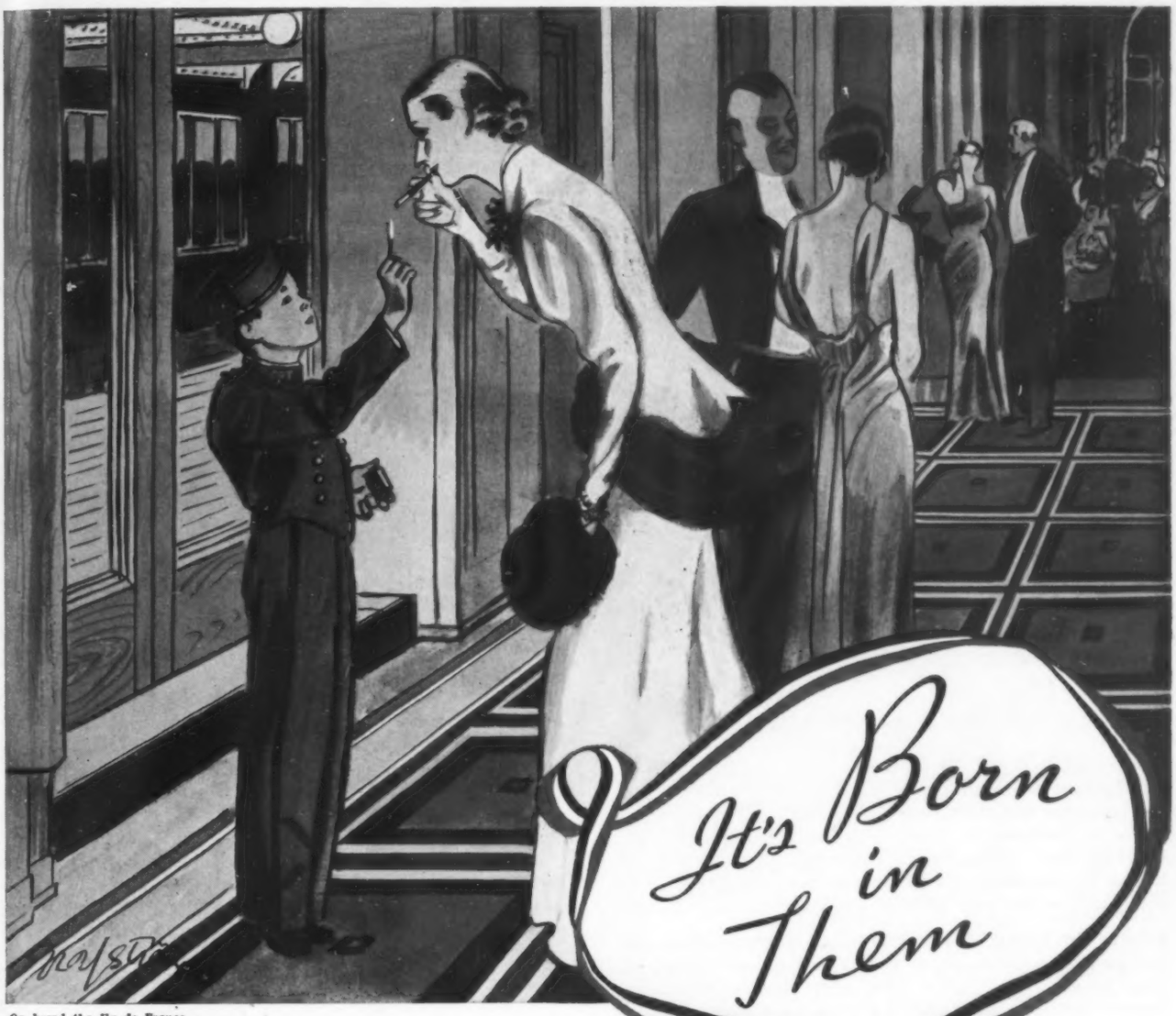
The air is full of millions of birds — pelicans, cormorants, penguins and many kinds of gulls, along with the millions of guayanes — guano birds of Peru. They darken the sun and the islands are black with them — acres and acres of black herds that run before one like a drove of cattle. The air is so full of falling down that the effect is that of a snow fall; the down clogged our screens every three hours. And *down* isn't the only thing of which the air is full — one doesn't venture out in his Sunday derby on Chincha; in fact, it is much safer to carry an umbrella! Deep caves, full of angry sea lions, indent the shores, while the dust on the plateau is stifling. The continuous whirring of wings and the patting of webbed feet act strangely upon the imagination — there is an eerie feeling of some colossal creature moving about in close proximity. Here, and on the mainland coast of Peru, rain falls about every seven years, but now there has been no rain for some fourteen years!

As we moved northward the water of the Humbolt Current remained cold, but the weather grew perceptibly warmer every day. The Peruvian shores are a study in picturesque desolation. We passed Trujillo and Talara, and two more days brought us to Isla Salango, Ecuador. Close in to the mainland shore, Salango was a favorite rendezvous of whalers in the old days. After a bit of fishing, we went from here to a famous island off the coast from the little town of Machalilla, Ecuador. Isla La Plata is ruled by an old bandit chief from the mountains of Ecuador, who with his wife, son and two daughters, are the sole inhabitants. It was here that Sir Francis Drake divided the spoils of the *Cacafuego* in 1579. We anchored in a little bay on the northeast shore — the same bay in which Drake anchored.

I told Nicholas, our bandit padrone, about Drake and he became so excited that he could hardly contain himself. The fishing here was marvelous and Nicholas was strong in voicing his opinion that we were the finest "fishing boat" that had thus far visited the island. As we took our departure, Nicholas and his family waved us a long farewell. Indeed, when we were seven miles out I looked through the glasses and saw them still waving — few vessels ever visit the island.

We crossed the line and paused among the Pearl Islands, off Panama and Colombia, to fish for black marlin, but wind and rough water conjured up the devil that is the fisherman's enemy, and we caught nothing but huge sharks. Most of the islands are uninhabited, yet we found one dugout drawn up in front of a thatched hut long deserted — perhaps the Indians from Colombia had left it there on a visit. Wild life is scarce, and the silence and mystery of wild and uninhabited shores hang over the land.

After the thrill of treading the sands of uncharted shores we returned to music, cards, and dinner on *Samona's* after deck. And so we voyaged northward to a treasure island of the Pacific. But that will be another chapter — alas! the end of our gypsy wanderings.



On board the Ile de France

PSYCHO-ANALYSTS might call it an *Aladdin Complex,* but most of us do yearn (in some vague way or other) to command instant, complete attention to our every-day needs . . . a convenient *genii* to run all our errands for us. But *jinns* have "gone out," along with magic carpets, wishing-lamps, and cloaks-of-invisibility. So, many moderns gratify the Aladdin in them by traveling French Line.

Page-boys of the French Line (despite the bright scarlet of their uniforms) may join with Mercutio in saying: "I am the very pink of courtesy." Truly, politeness seems to have been born in them. One has only to produce a cigarette-case, and a "light" is miraculously at one's elbow. Every wish seems instantly to telegraph its birth to these alert, charming young persons.

Yet figuratively as well as literally, these page-boys are only the smallest part of the perfect service found on France-Afloat. Stewards (who speak English) are always unobtrusively at hand—on deck, in salons, and along cabin-hallways — to help make every moment utterly luxurious. The cuisine is considered, by many who ought to know, as the best French cooking they have ever enjoyed. And, the beauty, modernity, and atmosphere of French Line ships naturally form an ideal setting for such a service.

So this summer, let some travel agent plan a trip to Europe for you. (There is no charge for such service.) And give yourself the complete luxury of French Line passage . . . the modern "wishing-lamp" that supplies lightning command over inherent politeness. French Line, 19 State St., New York City.

French Line

ILE DE FRANCE, July 7 and 28, August 19, September 5 • PARIS, August 11, September 9 • CHAMPLAIN, July 15, August 5 and 24 • LAFAYETTE, July 21, September 13 • DE GRASSE, August 30 • ROCHAMBEAU, July 25

"EXCELLENT QUALITY ---of uniform standard"

says the foreman of Ratsey & Lapthorn

The firm of Ratsey & Lapthorn needs no introduction to yachtsmen. For nearly a century and a half this famous firm, with shops at Southampton, Cowes, Gosport, Gourock and New York, has been known to yachtsmen the world over for the quality of its sails and its rigging.

So it is with special pleasure that we repeat the comments of George Graham, foreman of Ratsey & Lapthorn's plant at City Island, New York. "We have stocked Plymouth Special Manila Yacht Rope for a good many years because we find its quality excellent, of uniform standard and because we never have any complaints from our customers. They not only seem satisfied but we get repeat orders."

If you, like the customers of Ratsey & Lapthorn, would like the safety, satisfaction and real economy that comes from rigging of the highest quality, suggest to your rigger that he use Plymouth Ship Brand Manila Rope.

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Booklet — Rope For The Boatman — gives knots, splices and table of Rope Replacements. Copy free on request.

Plymouth Ship Brand Manila Rope is preferred by industrial users as well as yachtsmen.

The New Plymouth Ready Mooring Line
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8 sizes: ¾" to 1½" diam. 6 lengths: 4 to 9 fathoms

PLYMOUTH
• SHIP BRAND MANILA ROPE •
THE ROPE YOU CAN TRUST

The Slipping Clutch

(*Continued from page 66*)

from the one just described only in the method of expanding the fingers. In this type the fingers or toggles are made to exert forward pressure on the disks by the fore and aft motion of a sliding collar in which the toggle ends ride. The collar, in turn, is given fore and aft motion by a yoke linked to the clutch lever. As in the former type, the object of the adjustment is to bring the toggles closer to the disks, and this is accomplished by screwing closer to the disks the part to which the toggles are fitted. The part that must be screwed up will be found just forward of the toggles and may be identified by a notched rim or by a set screw running through it horizontally, not necessarily vertically, as in the cone type. This set screw must be backed out and the adjusting plate screwed forward two or three notches, if there are notches, or two or three holes into which the set screw fits, and then locked. If the clutch still slips, screw up the adjusting plate a few more notches or holes, but do not screw it so far up that the toggles, when in their forward position, do not lock. To lock they must be across the dead center position of their motion. This is not easily explained but is readily observed; you will find out soon enough if they are not in the locked position as the linkage and clutch lever will slip out of the forward position unless constant forward pressure is exerted on the lever. Under no circumstances should constant pressure be applied.

When in the full ahead position with the fingers riding in the groove on the cone, or the toggles thrown into their locked position, the clutch lever should have a little free motion. This play shows that the clutch is properly engaged and that the pressure is taken off the shifting yoke. The operator should feel a slight click or snap when the fingers or toggles lock.

After you have made the adjustment be sure to tighten the lock screw thoroughly, be careful not to drop any of the parts or tools into the bottom of the clutch housing, and for your efforts you will get power — at the propeller.

\+ + +

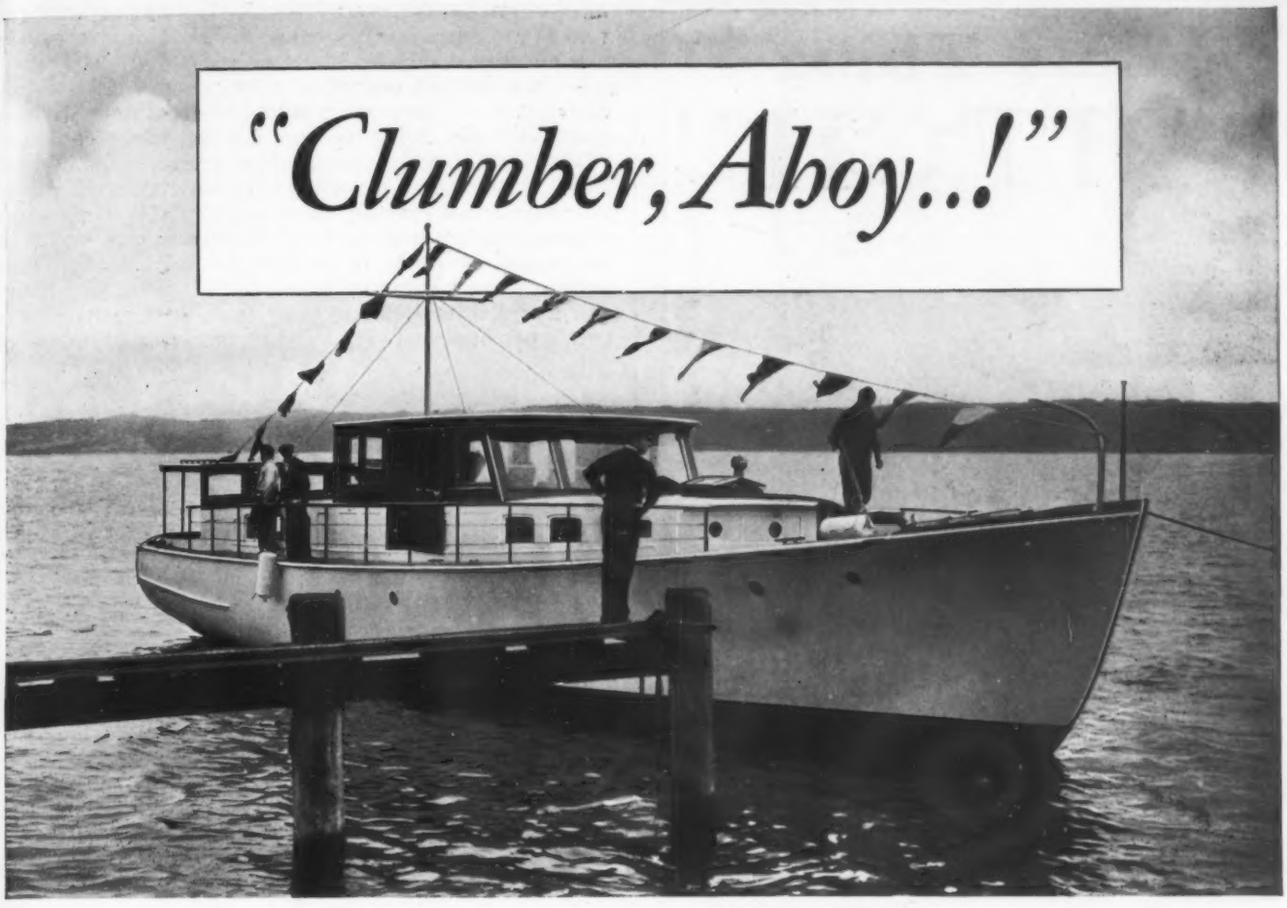
The Forgotten Catboat

(*Continued from page 44*)

which I bow to the yawl, ketch, schooner, or lightly rigged jib-headed sloop. And yet it is rather a perfunctory bow, because this peculiarity of the cat is in reality an automatic preventer of dangerous overdriving. With the catboat, when the automatic heaver-to gets to work, there's nothing to do but reef. I hope I have demonstrated, in the foregoing, that reefing is easy when you are accustomed to the routine involved.

True, it is not as easy as simply dropping a sail entirely. But once reefing is accomplished, the catboat is again under perfect control, and will actually go considerably faster than when she is badly overpressed. The effect of the reef is astonishing, as several things are accomplished in the one operation. The area of the sail is reduced, the center of pressure is brought in much nearer to the center line of the boat, and the lee bow is not pressed so deeply into the water, all conspiring to make her as easy as can be.

This super-cruising boat will also go to windward in moderate to light weather. "Bud" and I have cruised a great many week-ends in company with *Mermerus*, an "R" boat converted to cruising. Her owner, Mr. Francis Goodwin, II, described her good qualities in YACHTING last year and a lovely, able little ship she is. We frequently make our runs together, and while we are in no sense racing, we nevertheless have opportunity to compare the relative abilities of the two boats. Two



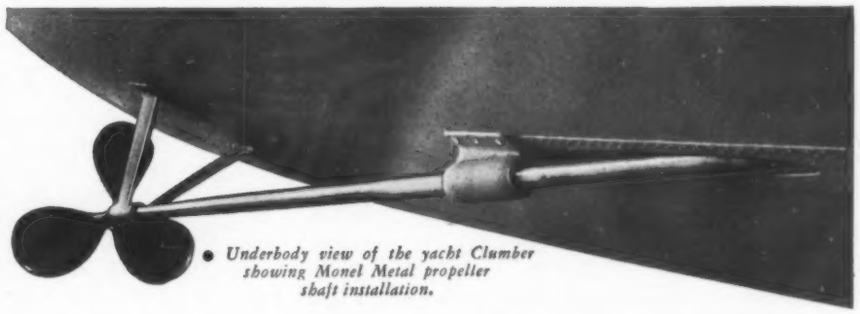
• *Clumber, a 70-ft. cruiser built by Julius Petersen of Nyack from designs by Tams, Inc. The power plant consists of two 100 H.P. Winton Diesels driving through Monel Metal shafts of 2¾" dia. turning in Cutless rubber bearings. This craft is capable of a maximum speed of 13¾ miles per hour with a cruising speed of 11¾ m.p.h.*

DESIGNED...*by Tams, Inc.*
BUILT...*by Julius Petersen*
DRIVEN...*through Monel Metal Shafts*

● From range light to propeller shafts, the Clumber is a craft to arouse even a landsman's admiration. To yachtsmen who eye her trim lines and seaworthy performance, she has an even stronger appeal.

To those who had a hand in her design and building, there's hearty respect for such a fine example of the boat-building art. Capable of driving her at a speed of 13½ miles an hour, the Clumber's two shafts must be dependable. And they *are*. Cold drawn Monel Metal, 2½ inches in diameter, they are eternally proof against rust and salt-water corrosion, stiff enough to operate without whip or vibration, and strong enough to survive shocks and jars that would distort shafts made of less capable material.

It is no accident that such a large proportion of the finer craft afloat today are being equipped with Monel Metal shafts and propellers...also with Monel Metal fittings, galley trim, hardware, wire stays and tiller rope.



• *Underbody view of the yacht Clumber showing Monel Metal propeller shaft installation.*

Neither is it an accident that more prosaic boats...those engaged in fishing, ferry service and similar humble pursuits, where operating costs must be kept to the minimum, are also equipped with Monel Metal. If you are interested in prices or other details, drop a line to

The International Nickel Company, Inc., 67 Wall Street, New York, N.Y.

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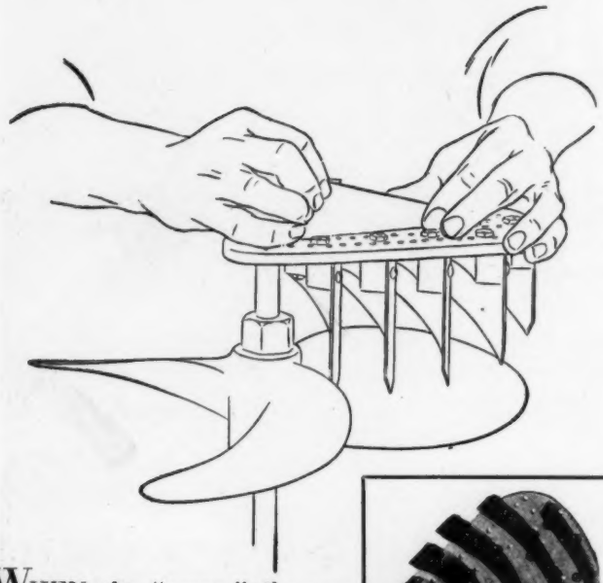
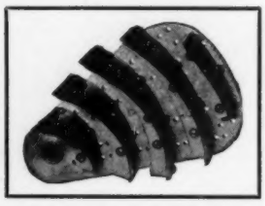
Monel Metal is a registered trade mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

MONEL METAL

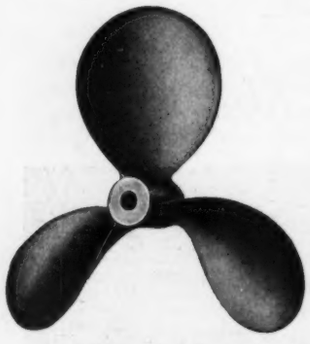
This Thing "PITCH"





In the Hyde template room there are thousands of templates. One for every diameter and pitch.

WHEN the "screw," *the propeller*, travels through the "nut," *the water*, the propeller must have a true screw pitch to advance smoothly. Otherwise no two portions of the water column are forced astern at the same speed, and inefficiency results. Therefore, point or center-line checking of pitch is not enough. A Hyde template *covers the entire blade area.* After every operation in manufacture, the template is chalked and applied. All template edges must leave perfect lines upon every blade, for the propeller to pass inspection. This care and expense are the reasons why the pitch of Hyde Propellers is correct.



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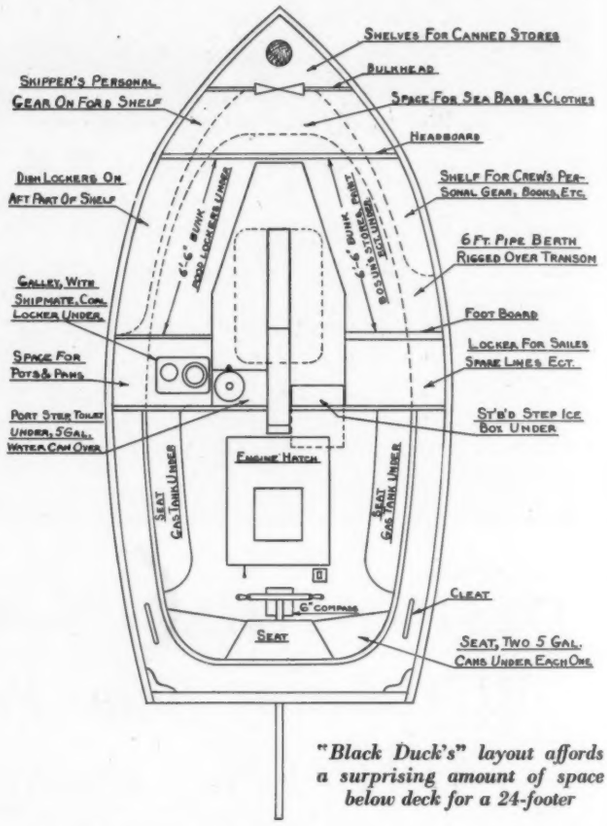
Send for this free booklet "Propeller Efficiency." It will tell you why Hyde Propellers often increase the speed of a boat and always get home safely.

HYDE
PROPELLERS

more dissimilar types could hardly be imagined, yet the vessels are surprisingly evenly matched, and the very dissimilarity makes for interest.

At the risk of becoming a nuisance, I feel that a description of the type would be incomplete without discussing the living accommodations and comforts. "Bud" and I have spent many a day and night on *Black Duck* and we can truthfully say that we know of no other small cruising boat that combines so much seagoing ability with as much room and comfort, both below and on deck, in 24 feet overall length. A cat may not give headroom, but at least it gives foot room, and a wealth of space to stow the ship's gear and the crew's personal gear. With sitting headroom, the lack of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6'-6" Bunk
6 Ft. Pipe Berth Rigged Over Transom
Galley, With Shipmate Cook Locker Under
Foot Board
Space For Pots & Pans
Locker For Sails Spare Lines Ect.
Port Steb'd Toilet Under, 5 Gal. Water Can Over
St'b'd Step Ice Box Under
Engine Hatch
Seat Gas Tank Under
Seat Gas Tank Under
Cleat
6' Compass
Seat
Seat, Two 5 Gal. Cans Under Each One

"Black Duck's" layout affords a surprising amount of space below deck for a 24-footer

standing headroom is entirely forgotten after the first few hours on board. There's room in the cabin for two men to live below in foul weather or at night in what almost amounts to luxury.

The facilities for living on deck are no less remarkable than those below. In the cockpit, with nine feet of width and eight of length, we have room for six to eight people. When there are only two of us aboard we can emulate the skipper on his quarter deck. I suppose, however, that the well-known cockpit is one of the main points of criticism of the catboat, because of the danger of its being filled with water and sinking the ship. All I can say is that in five seasons of cruising in *Black Duck* I have never seen the cockpit in danger of being filled, and I doubt if it could be filled by anything you might run into alongshore. I am not recommending the cat as an offshore cruiser, although I feel perfectly confident that she could be taken to Bermuda and back in summer weather. I do claim that the catboat is one of the best cruising types for alongshore work. And why, in heaven's name, have a heavy, cramped, relatively slow boat when you know blamed well you'll never get the chance — or time — to go offshore except once in a dog's age — when you'll probably be asked to go in somebody's schooner, anyway.

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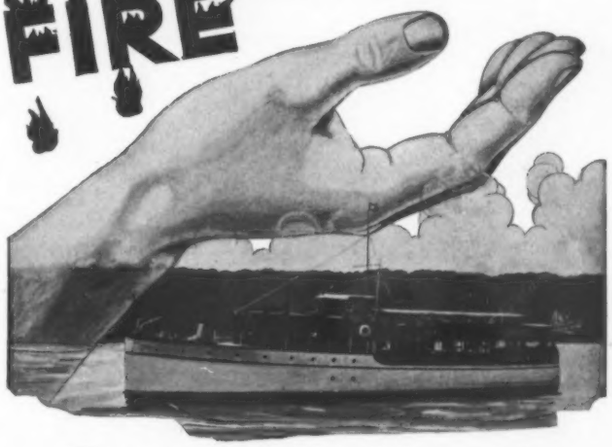

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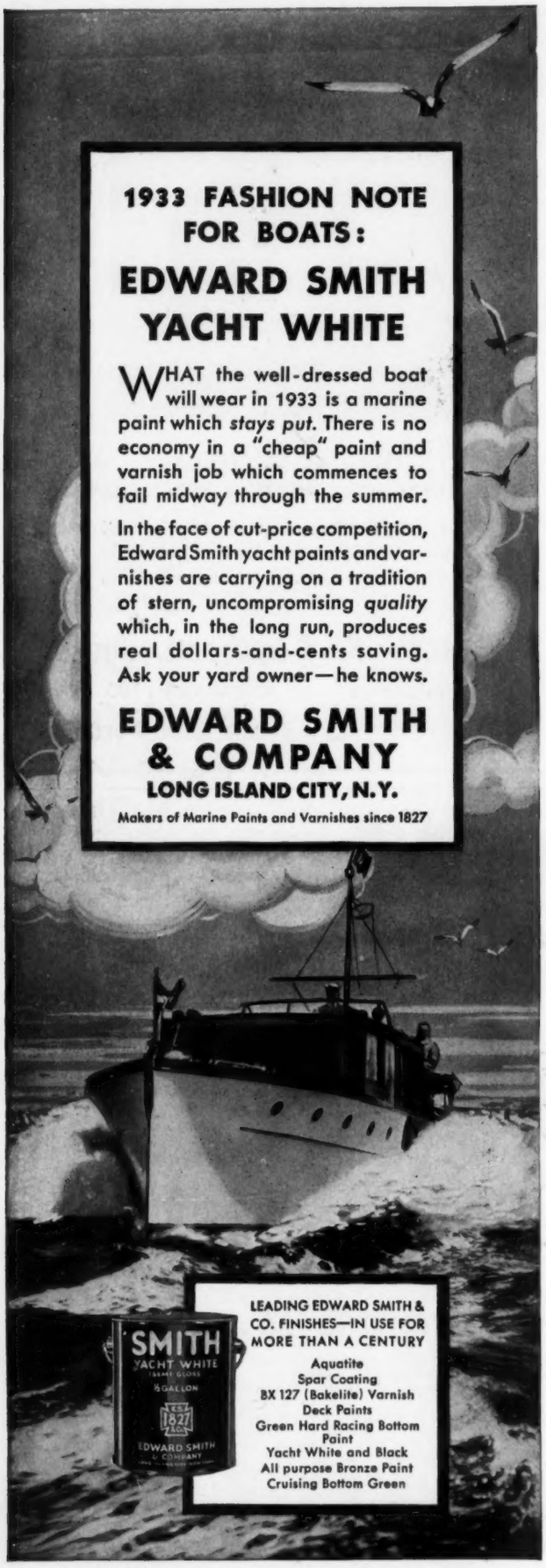
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Old "Emma" Comes to Barnegat

(*Continued from page 48*)

as we heard Frank's motor idling nicely, "but we can't turn around without knocking down those lights."

"Well, make it snappy; we've got a lot to do," replied the officer, with a degree of prophecy which he didn't realize. At the first jerk of the tow line our surviving motor thought that it had been relieved of its duties, and it relaxed. It had relaxed before, but never with such a loud noise. When Frank reported that a connecting rod had come through the side of the crankcase I was almost afraid to tell the canal officer of our newest plight; the only time I have felt more chagrined was when I ran out of gas in the Holland Tunnel. The crew of the engineers' boat wasn't pleased with this development, either, and *Emma* heard strong language on every hand, but having taken hold of the lion's tail they were afraid to let go, and thus it came about that the shabby *Emma* was towed majestically the rest of the way through the canal, to the accompaniment of much official tooting of whistles, which made her feel very important. No matter what the humiliation, *Emma* always seems to come out on top.

At Price's Bend a few days later, however, we joined the fleet of the Cruising Club, and *Emma* and her crew were subjected to severe scrutiny. We prepared ourselves for the ordeal by rehearsing a fictitious story designed to conceal the fact that *Emma* was acquired by candle-light, and down in the hold we ripped off a couple of pieces of the ceiling just to make it appear as though we had made a thorough examination before we purchased her. We beat across the Sound from Bridgeport under full sail in a stiff breeze, and at the harbor entrance we met *Dorade*, reefed down and heeled at an angle that seemed scandalously yachty. *Emma* was standing straight up on her feet and thought the comparison was all in her favor — but she was thankful that *Dorade* was going in the opposite direction. When we related all the exploits of some of the other prominent boats that were present *Emma* was duly humbled, and as we drew close to the anchored fleet she began to perceive that she would cut a sorry figure in contrast with such fine yachts, so she luffed away from the stylish *Mistress* and came to anchor alongside *Mother Goose*.

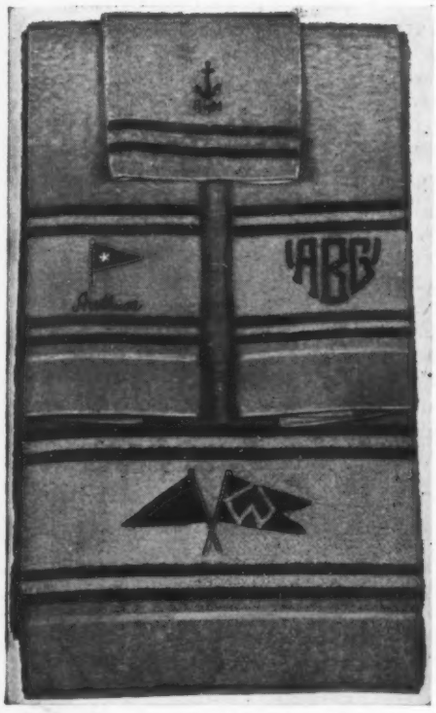
Some of our visitors, who came aboard after lunch to look us over, manned the pumps and spent most of the afternoon with us; when it looked as though they might be late for supper we insisted that we heard the pump sucking air, and although nobody believed us they took this opportunity for a graceful retreat. The consensus of opinion seemed to be that *Emma* was a vessel with a great deal of character, and with a distinct atmosphere, especially, it was pointed out, in the bilge. Everybody to loo'ard knew that she had been a fisherman for years, and on every hand we heard the whispered word: "Sixty-five years old and still going *strong!*"

Emma's renascence was now near at hand, but before we laid her up we had a last exhilarating sail in her off the Jersey beach. We passed the tip of Sandy Hook at dusk in a freshening breeze, and had hopes of reaching Manasquan Inlet at midnight, so that we could enter on the last of the flood tide. But the wind headed us as it freshened and at high water we were far offshore with no chance to get in the inlet until the next day. So we sailed back and forth off the coast all night, carrying more sail than we needed because it was easier for *Emma* to lug it than for her crew to take it in. The easy motion was a revelation, and although her bilges are hard and her beam great, it was apparent that *Emma* had learned a few tricks about comfortable behavior offshore. She carries her weights high and there are other

Champion Spark Plug Trophies

Thirteen beautiful cups will be offered to outboard drivers during the 1933 racing season by the Champion Spark Plug Company of Toledo, Ohio. The cups, which include a large trophy for the national high point winner and twelve smaller trophies for sectional winners, are open to competition only among drivers who have attained their victories while using Champion Spark Plugs.

The sections provided for in the cup awards are the Southern, Eastern, Central and Western sections and three classifications, A, B and C, will be made in each section. Scoring of points for the trophies will be done under supervision of Mr. George W. Sutton, Jr., of New York City, who has been delegated the task by officials of the National Outboard Association and the A. P. B. A.



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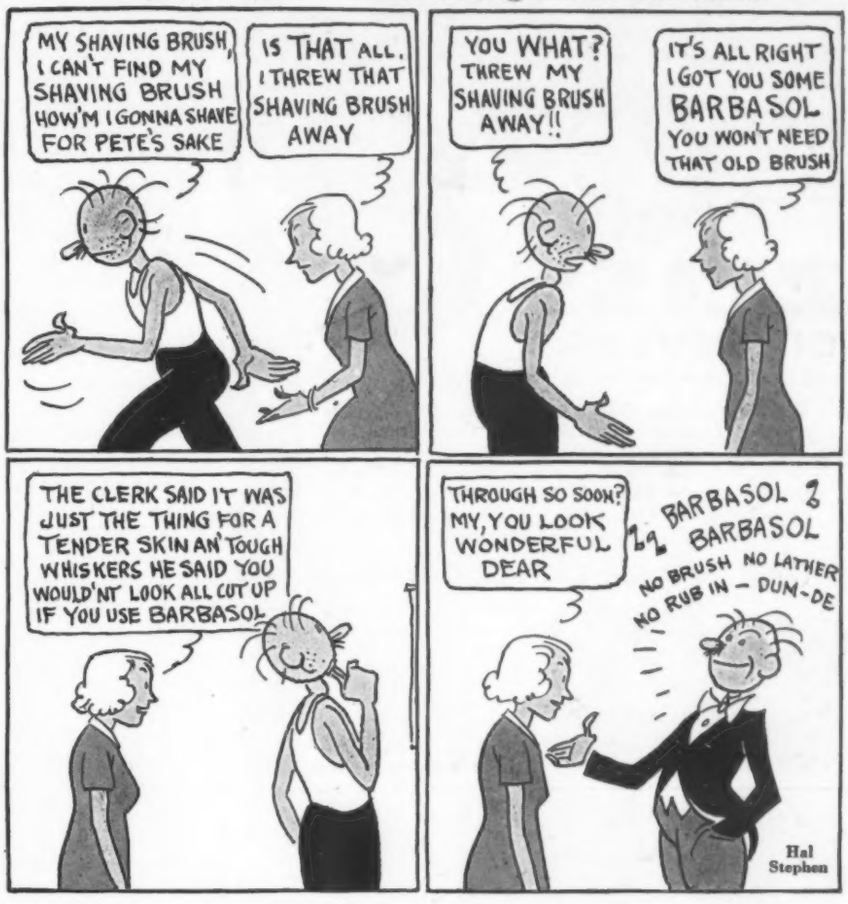
Twenty-Seven-Year-Old Motor Still Runs

Mr. W. R. Moore, Seeley Lake, Mont., who has spent ten years in the Government Reindeer service in Alaska and during that time has traveled 15,000 miles on rivers and lakes in all kinds of boats, including native kayaks, writes of an interesting adventure.

Two years ago, on the lower Yukon River, Mr. Moore was by chance left entirely without transportation, but discovered a native who owned a Gray 6 h.p., 2-cycle, single-cylinder engine built in 1906. The native was using this engine every day, and using seal oil for lubrication. A new pair of ignition points were made on the spark coil, using part of what is known in Alaska as an "eight penny wire nail." Mr. Moore reports that the motor is still running and giving service in the hands of the native, although it is now old enough to vote.

Barbasol

Mary Makes a Hit—Doubling for Santa Claus


MY SHAVING BRUSH, I CAN'T FIND MY SHAVING BRUSH HOW'M I GONNA SHAVE FOR PETE'S SAKE
IS THAT ALL. I THREW THAT SHAVING BRUSH AWAY
YOU WHAT? THREW MY SHAVING BRUSH AWAY!!
IT'S ALL RIGHT I GOT YOU SOME BARBASOL YOU WON'T NEED THAT OLD BRUSH
THE CLERK SAID IT WAS JUST THE THING FOR A TENDER SKIN AN' TOUGH WHISKERS HE SAID YOU WOULD'NT LOOK ALL CUT UP IF YOU USE BARBASOL
THROUGH SO SOON? MY, YOU LOOK WONDERFUL DEAR
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technical factors in her favor, but underneath them all it is probably just her seagoing nature which accounts for all her virtues, for *Emma* never heard of such things as moments of inertia, radii of gyration, or metacentric heights. She hadn't even heard of initial stability until Pete and I talked about it, and for sixty-five years she had thought of herself as simply "stiff."

But she has an old-fashioned wisdom and a philosophical reasoning that has opened her eyes to many truths, one of them being that the greatest single contribution to seaworthiness and comfort offshore is a moderation of gait. Even in the old days, *Emma* explained, it was necessary to hustle to market and race other boats, and all that sort of thing, but notwithstanding this incentive nobody tried to build a really speedy fishing smack; they'd pay dearly for it if they did. What they built were smart sailers that could carry generous cargoes; little vessels that would handle properly and that would be easy on crew and gear — and that could always be counted upon to come home. There are more boats that are seaworthy because of their slowness, says *Emma*, than there are boats which are slow because of their seaworthiness.

We entered Barnegat by the back door, crossing the bar at the mouth of the stone jetties in Manasquan Inlet with scarcely a foot of water under our keel. After dragging bottom for three miles *Emma* emerged from the canal into Barnegat's headwaters, glanced around approvingly at the protecting shores that were close at hand on every side, and decided that she had gone far enough. It was two weeks before she could be persuaded to move from the spot in mid-channel where she had planted her long keel, and it took a belated welcome on Barnegat's part, in the form of an extra high tide, to put her in a tractable mood again. Then we had her hauled on the ways and stripped out clean inside, and after a few new frames had been scattered judiciously in her ends she was patched and caulked below the waterline so that she would stay afloat while the long process of rebuilding was underway.

Some day, we have promised *Emma*, we'll sail her away to some picturesque shipyard and spend the winter replanking her, but for the present she'll have to be content with the work that's going on inside. We've ceiled her with 2-inch long-leaf pine, her new bulkheads are made of 2½-inch cypress that we picked up at an auction, and her floor beams came off a wreck that Heaven and a northeaster sent us last winter. Of course *Emma* is destined never to acquire a yachty glamor; her age, the depression, and an indolent crew will effectively prevent it. Never, I'm afraid, will she reach the pinnacle of rejuvenation which should properly be the climax of a romantic history, for we've determined to stop working on her as soon as she's ready to sail again; after that we'll spend most of our time cruising, and we'll fix things only when they give way. We're no longer Boy Scouts and we're free to venture forth with all the unpreparedness that marks vessels which can't quite pay their way. If we carry away a mainmast, as has been delicately predicted, we'll have to prop up the remaining one with a watchful eye and coax *Emma* inshore to the nearest pine tree. We'll cruise cautiously for a while, within pumping distance of the mainland.

At the present moment a dripping northeaster comes sneaking in under the door and little rivulets wet my carpet, which is one of *Emma's* old jibs. Outside the window *Emma* herself is lying peacefully in her slip, where she has been lying patiently for a year and a half while Peter and I work on her occasionally and talk about her a great deal; little waves lap pleasantly against her sides, and a halliard slaps against her mainmast. Some worm-eaten sheathing on the dock thuds against the stringers, the wind moans steadily down my

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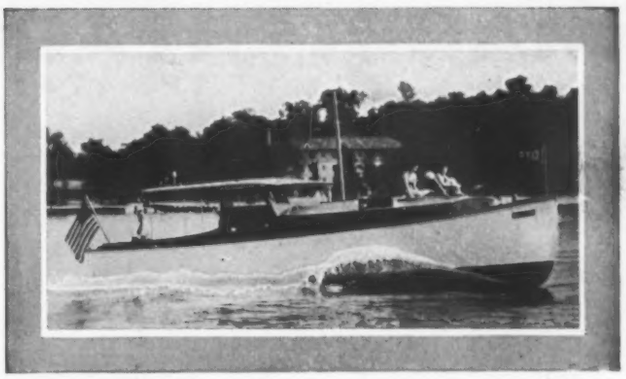

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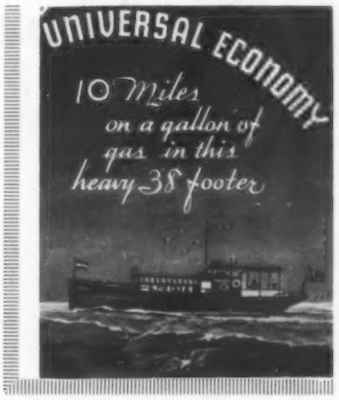

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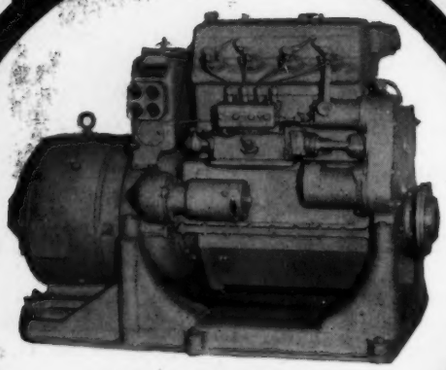

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stove pipe, and from time to time I can hear Peter's hammer down in *Emma's* hold. Except for the constant booming of the surf over on the beach there are no other sounds; no radio, no trolley cars, no automobiles — just *Emma* and her simplicity. It's really not a bad way to spend your life, rebuilding an old boat — even if you never finish.

\+ + +

This Matter of Horsepower

(*Continued from page 57*)

In the diagrams you will note two entirely different engines — one a small high speed 6-cylinder engine with 3⅝″ bore by 5″ stroke which will develop 106 b.h.p. at 2750 r.p.m., the other a large slow speed 6-cylinder engine with a 5″ bore by 7″ stroke which will also develop 106 b.h.p., but at 1100 r.p.m. These horsepower ratings in each case are the maximum, or with wide open throttle at the stated r.p.m.

The smaller engine, with proper application, so as to allow the engine to develop its rated horsepower, is connected to a drum through a 2½ to 1 reduction gear, whereas the larger engine is direct-connected. From this, you will see that the lifting speed is equivalent to the circumference of the 12″ drum times 1100 r.p.m., or 3455 feet per minute. In each case, the weight lifted was 1012 pounds or, designated in horsepower formula, would be as follows:

$$\frac{\text{(Speed) 3455 ft. per min.} \times \text{(Weight) 1012 lbs.}}{33{,}000} = 106 \text{ b.h.p.}$$

From this it can be seen that each engine, regardless of its size, accomplished the same feat and therefore each would develop the same measured horsepower. This makes it incorrect to refer to horsepower as being big or little.

As to the slogan "Reserve power," such a phrase, as far as horsepower is concerned, is misleading. To start with, every reliable engine manufacturer tests out his engines on a dynamometer or water brake, under wide open throttle conditions at various revolutions. To simplify matters, I have prepared a power curve of the 6-cylinder 3⅝″ by 5″ engine mentioned above. On this curve, you will note that 106 b.h.p. was developed at 2750 r.p.m., 91 b.h.p. at 2200 r.p.m., and 65 b.h.p. at 1600 r.p.m. These figures form the basis of engine ratings and, being the maximum of power developed by the engine, there could be no reserve power.

To the layman, power curves seem more or less incomprehensible. For instance, should the engine referred to above be installed in a boat and fitted with a propeller wheel to hold the engine revolutions to 2750 per minute, you can be assured that the engine would develop 106 b.h.p. and no more. However, should this engine, under the same conditions, be throttled down to 2200 r.p.m. it will by no means develop 91 b.h.p., but much less. Suppose, however, a heavier propeller wheel be installed so as to hold the engine down to 2200 r.p.m. with wide open throttle, the engine will then develop the rated 91 b.h.p.

The horsepower developed by an engine under throttled conditions is very problematic. For instance, while the power would be in some proportion to the power developed at the maximum r.p.m. in the boat, it could never be a definite factor, or the same in any two cases, as this would be governed by the different size propeller wheels, as well as by boat speed.

While throttle powers may be obtained on a brake test, they would only approximate those actually developed under operating conditions in a boat, as the conditions are entirely different.

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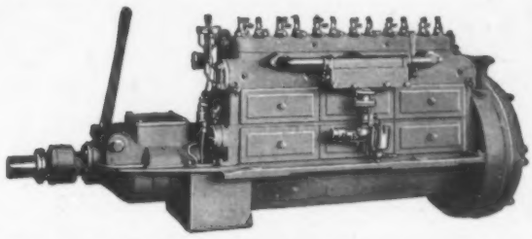

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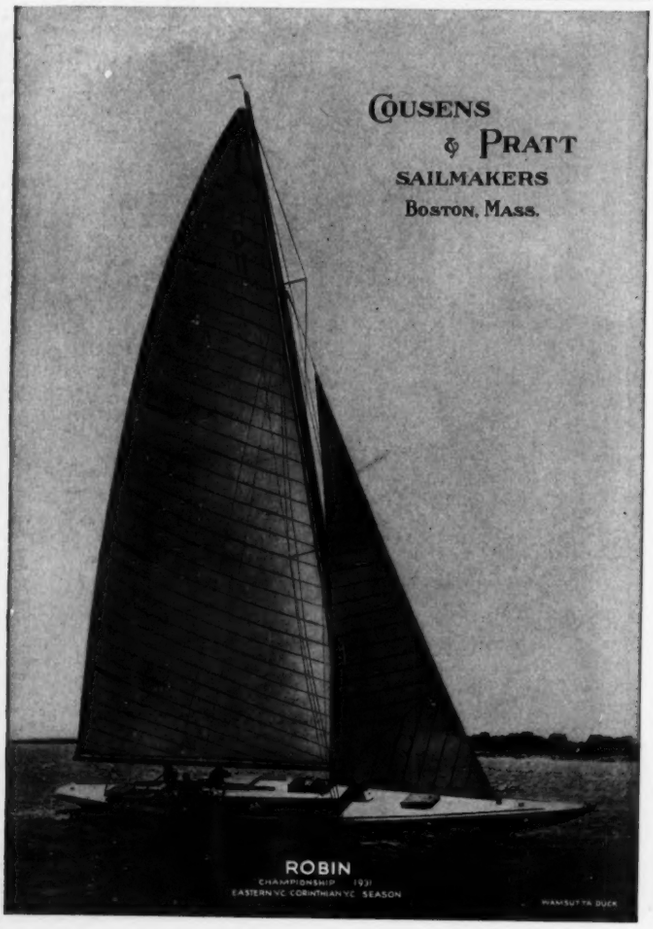

This brief article will I hope, help to clarify the points about engine ratings so often discussed but so little understood.

\+ + +

Propeller Shaft Bearings

(*Continued from page 51*)

In the accompanying sketches are shown several methods of holding this bearing in the rudder. Fauber was positive that the trunnion bearing should extend about one-third of its length abaft the center of the rudder stock. He claimed that his extensive experiments showed conclusively that the shaft was far more apt to break when the pivot was placed behind the bearing, as in the second sketch. In spite of Fauber's claims, many of the most successful Gold Cup boats are fitted with bearings of this second type. In order to give even more chance for the rudder to bend out of line without causing severe stresses on the propeller shaft, a third method of holding the bearing in the rudder is sometimes used. As the sketch shows, this gives the effect of a universal joint and permits the bearing to take the angle of the shaft no matter how the rudder bends. In the opinion of the writer, Fauber's theory is correct provided the rudder is rigid. If a semi-flexible rudder is used, then the third method is probably the safest. The bearing material in the trunnion may be made of any of the materials which have been mentioned above — rubber, paper, lignum vitae, or one of the special bronzes. But be sure that it gets plenty of water.

In a previous article, I have pointed out that the shaft bearings should not be too far apart and that the distance between them depends on the shaft diameter. When several bearings are to be used on the shaft, it is wise to make the distances between these bearings unequal rather than to space them uniformly. There is a sound reason for this. Vibration, or whipping of the shaft, will take place at a certain definite number of revolutions, depending on the spacing of the bearings and on the rigidity and diameter of the shaft. When the bearings are uniformly spaced, this whipping will take place in both spans at the same number of revolutions and will be severe. If the spans differ, there will be some vibration in one span at a certain speed and in the other at a different speed, but at no time will it be serious.

Often a whipping shaft can be cured by setting one of the intermediate bearings a little out of line so that the shaft must be sprung in order to pass through it. This was one of the tricks which was used with success by the famous Nat Herreshoff on the torpedo boats and speed boats built by his company. When the intermediate bearing is placed in this way, care must be used to see that the line of the bearing coincides with the line of the shaft when sprung through it. The bearing must not be cocked over so that it cramps on the top of the shaft at one end and on the bottom at the other, for if that is the case, excessive wear will result.

In commercial vessels with large, heavy, slow-turning propellers, the stern bearing is worn down by the weight of the shaft and propeller. Curiously, this does not happen in high speed boats with small high speed wheels having the propeller shaft at a considerable angle to the horizontal. In such boats, the top of the bearing wears away first. This is due to the effect of the angle of the shaft which gives the descending blade of the propeller more actual pitch than the rising blade. The propeller actually tries to climb up to the top of the water and this tendency is great enough to lift shaft and wheel up against the top of the bearing. This fact can be checked by looking at the rear bearing on high speed runabouts.

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(183)

"Pinta" Ships a Jonah

(Continued from page 33)

people and were delighted that we had something that they liked that we could give them. The trouble was that the supply became almost immediately exhausted.

I had given a large conch to the cook, a fine fellow who for two days fed us food that *was* food. A few minutes afterward he appeared and beckoned me to step outside. On his face was a grave expression. I prepared myself for the worst, whatever it was to be.

"Mister, did you give me that conch?"

"Yes, of course I did," I replied, somewhat puzzled.

"Was that conch for *me?*" persisted the cook. "There is a man who says you told him that he was to have a conch and that you would leave it with the cook."

I realized that legality was in order. "Cook, this man is in error. I hereby declare, as God is my witness, that the conch was for you and for no one else." But the examination was not yet over.

"You were the owner of the conch?" questioned the cook earnestly. I drew up and clicked my heels.

"I was the owner of the conch. And I gave that conch to you. Are you satisfied now?"

He looked at me, a shadow of care still weighing on his soul, and after some time shook his head slowly. "I must have a witness," he said.

He went to the door. Inside, around the vast pile of our gear that littered the floor, a circle of Coast Guardsmen sat. The cook looked them over in silence, examining, reflecting. Finally he picked out his man. The three of us drew up in a formal group outside the door and the cook turned to me and opened the meeting.

"Tell this man what you have just told me."

So the ritual was gone through once more, in full detail. "And now," said this stubborn cook to his witness, "will you back me up in case of any trouble?"

The witness thought it all over carefully and for some time we all stood silently in the thin Hatteras sunlight. "Yes, cook, I'll back you up," he announced finally.

A shadow seemed to pass from the cook's face. He nearly smiled. "Very well," he said and walked away.

And now the story of the *Pinta* starts on the upward curve. For the Captain appeared with a very pretty little lassie in tow and Percy, he of the dangerous sunset colors, was given away as a souvenir to this charmer.

With Percy out of the way, things began to happen. Two Coast Guard boats appeared over the horizon and lined up a half mile or so out. The surf boat was launched through the breakers — a fine sight — and brought us a light line which we walked up the beach. With this we brought ashore a six-inch hawser and made a bridle of it around the ship, passing it directly under the bowsprit and seizing it up close to the rail with lines rove through the scuppers. A strain was taken up on the line; finally it parted. There followed some fine work by the surf boat that night recovering the lost end. Bowlines were bent in and the strain continued.

And *Pinta*, seeming to wake from her light dozing on the beach, picked up her skirts and slid gracefully back into her proper element.

She suffered amazingly little damage. Not a frame cracked or a plank started. She was towed to Norfolk, thence to Solomon's Island, and made practically no water during the tow.

We parted with regret. We had a thrilling memory in common; a memory of a wild smother of surf, at night, lit by the sudden dazzling brightness of rockets. Our whole cruise is a memory, but we are happy to think that *Pinta* floats a stout ship once more, "Fit as a fiddle, and ready for love . . ."

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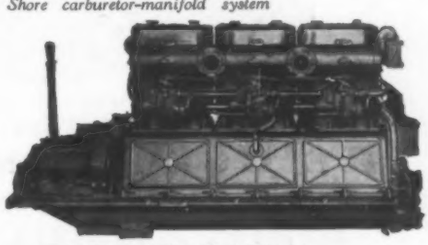

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